CONFIGURATION AND PARAMETERS

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"Heartbeat" LED

The Stellar logo LED on the SR55 front panel will blink once every 10 seconds to let the user know that all microprocessors in the soft starter are operating properly.

Configuration Overview

Configuring the SR55 soft starters for use is as simple as setting the parameters to match your motor, application, power source, etc.

You can configure the SR55 from its touchscreen, from an optional remote touchscreen, or from a PLC using Modbus RTU via the onboard RJ12 port or connected through an optional EtherNet/IP or Modbus TCP communication module.

Auto Setup Procedure

Choose this setup method if you want to quickly change all of the parameters at once to settings that are typical for your general application. You can then adjust some parameters as necessary to fine tune the settings for your specific application.

Setup by Individual Parameter Settings

Choose this setup method if you want to change the parameter settings yourself one at a time. The individual parameters are grouped by categories as you scroll through the touchscreen menu.

Configuration From Touchscreen

Simply touch the on-screen buttons to enter data or to scroll through the SR55 setup menu, using the intuitive "Up," Dn," "BACK," and "NEXT" buttons as necessary. From the home "Menu" screen, select either "Auto Setup" or "Advanced."

The resistive touchscreen requires localized pressure to activate a button and works best if you gently use a blunt stylus-type object to make on-screen selections.

Warning: Do not use a sharp object and/or excessive force to make touchscreen selections, or you may damage the touchscreen.

Auto Setup Procedure from Touchscreen

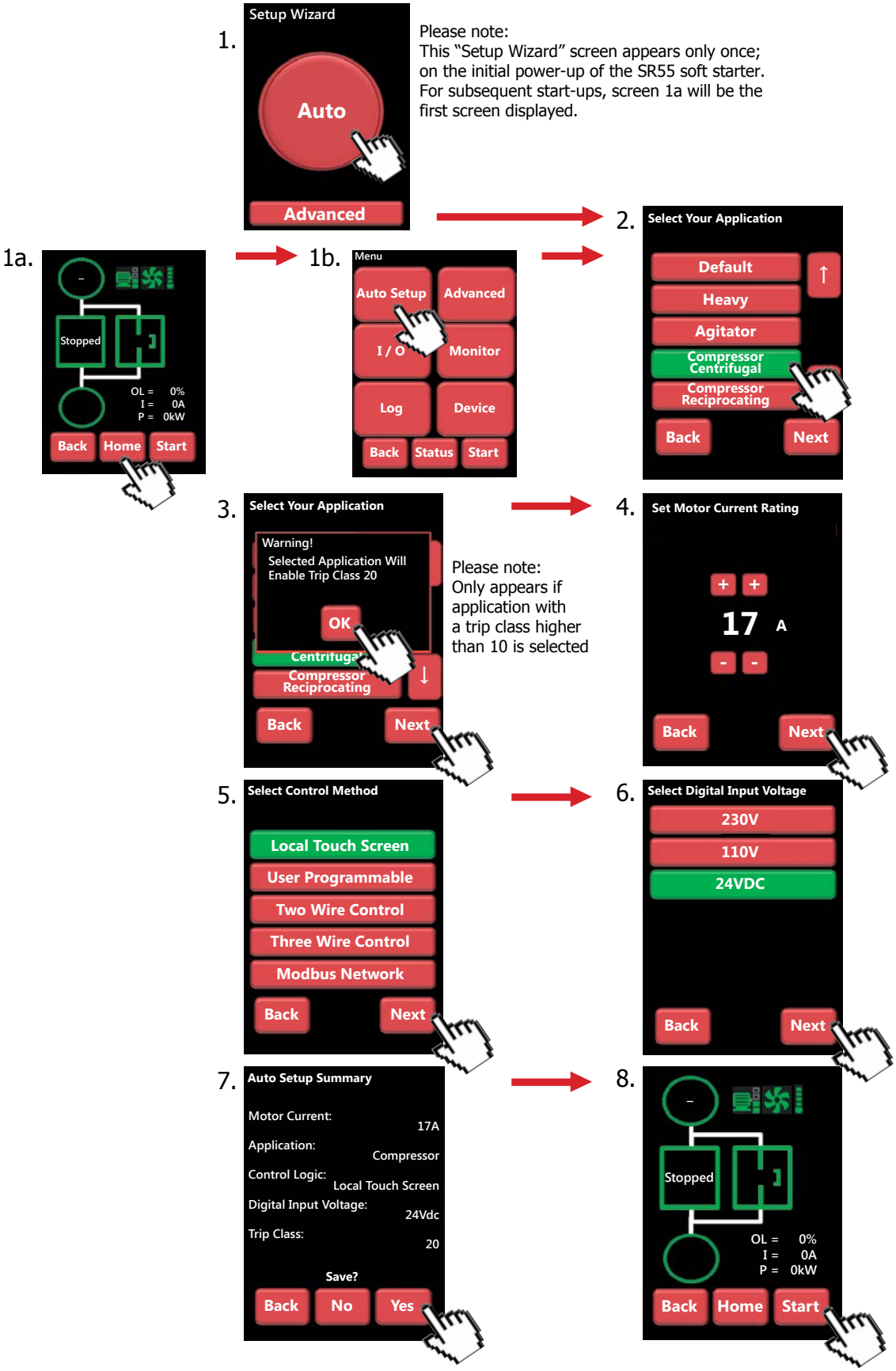
The "Setup Wizard" menu is displayed only the first time the SR55 is powered up. If you are ready to set parameters on the first power-up, select "Auto" from the on-screen Setup Wizard menu, and then follow the on-screen prompts. Refer to the Auto Setup Touchscreen Pictorial Example on the following page.

To set up your parameters following a subsequent start-up of your SR55, select the "Home" menu from the "Status" screen on the touchscreen, choose "Auto Setup," and then follow the on-screen prompts. Refer to the Auto Setup Touchscreen Pictorial Example on the following page.

Individual Parameter Settings from Touchscreen

From the initial "Setup Wizard" or from the Home Menu, choose the "Advanced" parameters and other parameter categories as required for your particular application. Refer to the "Parameter Summary" and "Parameter Details" sections of this chapter for more details.

Touchscreen Pictorial Example – Auto Setup



Auto Setup Procedure – Parameter Settings

Choose "Auto" setup from the "Setup Wizard" or from the "Home" menu, and set the following parameter groups:

1) Application
2) Motor Current Rating
3) Control Method
4) Digital Input Voltage

The SR55 will automatically set the rest of the parameters as shown in the following table:

Auto Setup Parameter Settings

#	Application	Start pedestal	Stop pedestal	Start time	Soft stop time	Trip Class	Current limit level	Current limit time	Optimize rate	Auto pedestal	Auto End Start 2	Auto End Start 1	Auto End 3	Delta Operation	Auto stop	Soft stop smoothing	spare	Auto ramp	Auto end stop	Impact load	Current limit - stopping	Current limit time - stopping
–	Unit	%	%	s	s	–	FLC	s	–	En	En	En	En	En	En	En	En	En	En	En	FLC	s
0	Default	20	10	10	0	10	3.5	30	5	0	0	0	1	1	0	0	0	0	0	0	8	2
1	Heavy	40	10	10	0	20	4	40	5	1	0	1	1	1	0	0	0	0	0	0	8	2
2	Agitator	30	10	10	0	10	3.5	25	5	1	0	1	1	1	0	0	0	0	0	0	8	2
3	Compressor - Centrifugal	35	10	15	0	20	3.5	25	5	1	0	1	1	1	0	0	0	0	0	0	8	2
4	Compressor - Reciprocating	45	10	15	0	20	3.5	25	15	1	0	1	1	1	0	0	0	0	0	0	8	2
5	Compressor - Screw	40	10	15	0	20	3.5	25	5	1	0	1	1	1	0	0	0	0	0	0	8	2
6	Compressor - Vane	35	10	7	0	10	3.5	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
7	Compressor - Scroll	35	10	7	0	10	3.5	25	15	1	0	1	0	1	0	0	0	0	0	0	8	2
8	Ball mill	40	10	10	0	20	5.5	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
9	Centrifuge	40	10	10	0	30	2.5	300	5	1	0	1	0	1	0	0	0	0	0	0	8	2
10	Bow Thruster - Zero Pitch	10	10	10	0	10	2.5	25	5	1	1	0	1	1	0	0	0	0	0	0	8	2
11	Bow Thruster - Loaded	10	10	10	0	20	4	25	5	1	1	0	1	1	0	0	1	0	0	0	8	2
12	Conveyor - Unloaded	10	10	10	7	10	3.5	30	5	1	0	1	0	1	1	1	1	0	1	0	2	10
13	Conveyor - Loaded	10	10	10	7	20	5.5	30	5	1	0	1	0	1	1	1	0	0	1	0	2	10
14	Crusher	40	10	10	0	30	3.5	60	5	1	0	1	0	1	0	0	0	0	0	0	8	2
15	Fan - Low Inertia	30	10	15	0	10	3.5	30	5	1	0	1	0	1	0	1	0	0	0	0	8	2
16	Fan - High Inertia	40	10	10	0	30	3.5	60	5	1	0	1	0	1	0	0	0	0	0	0	8	2
17	Feeder - screw	20	10	10	0	10	3.5	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
18	Grinder	40	10	10	0	20	3.5	40	5	1	0	1	0	1	0	0	0	0	0	0	8	2
19	Hammer mill	40	10	10	0	20	3.5	40	5	1	0	1	0	1	0	0	0	0	0	0	8	2
20	Lathe machines	10	10	15	0	10	3.5	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
21	Mills - flour Etc	40	10	10	0	20	3.5	40	5	1	0	1	0	1	0	0	0	0	0	0	8	2
22	Mixer - Unloaded	10	10	10	0	10	3.5	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
23	Mixer - Loaded	10	10	10	0	20	4	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
24	Moulding Machine	10	10	10	0	10	4.5	25	5	1	0	1	0	1	0	0	0	0	0	1	8	2
25	Pelletisers	40	10	10	0	20	5.5	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
26	Plastic and textile machines	10	10	10	0	10	4.5	25	5	1	0	1	0	1	0	0	1	0	0	1	8	2
27	Press, flywheel	40	10	10	0	20	3.5	40	5	1	0	1	0	1	0	0	1	0	0	1	8	2
28	Pump - Submersible Centrifugal	10	10	10	60	10	3.5	25	5	1	0	0	0	1	1	1	1	0	1	0	2	25

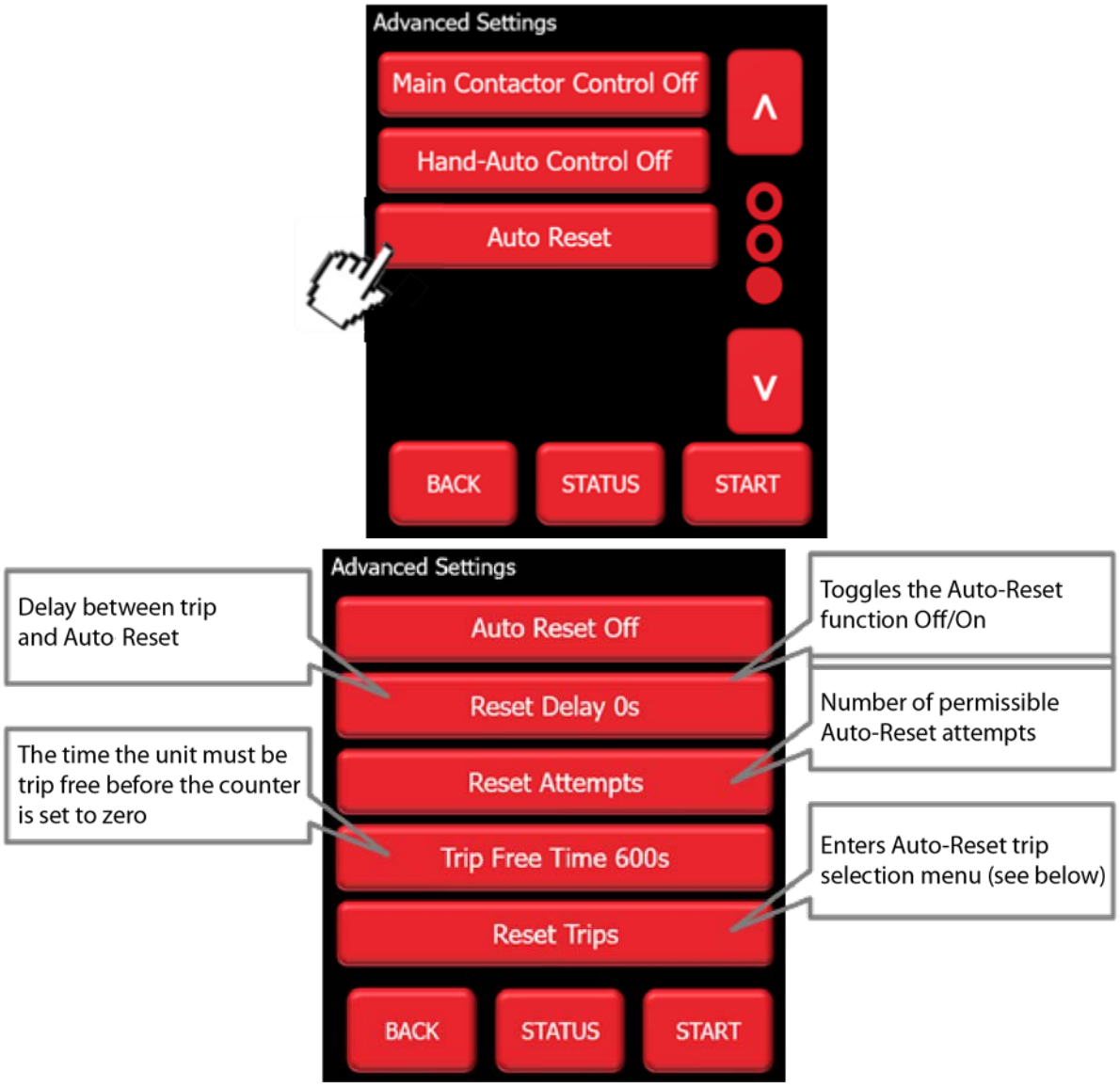
Auto Setup Parameter Settings (continued from previous page)																					
#	Application	Start pedestal	Stop pedestal	Start time	Soft stop time	Trip Class	Current limit level	Current limit time	Optimize rate	Auto pedestal	Auto End Start 2	Auto End Start 1	Auto End 3	Delta Operation	Auto stop	Soft stop smoothing	spare	Auto ramp	Auto end stop	Impact load	Current limit - stopping	Current limit time - stopping
–	Unit	%	%	s	s	–	FLC	s	–	En	En	En	En	En	En	En	En	En	En	En	FLC	s
29	Pump - Submersible Rotodynamic	10	10	10	60	10	3.5	25	5	1	0	0	0	1	1	1	1	0	1	0	2	25
30	Pump - Positive displacement Reciprocating	10	10	10	60	20	3.5	25	15	1	0	0	0	1	1	1	0	0	1	0	2	25
31	Pump - Positive displacement Rotary	10	10	10	60	20	3.5	25	15	1	0	0	0	1	1	1	0	0	1	0	2	25
32	Pump Jack	40	10	10	0	20	3.5	40	5	1	0	1	0	1	0	0	0	0	0	1	8	2
33	Rolling mill	40	10	10	0	20	3.5	40	5	1	0	1	0	1	0	0	0	0	0	0	8	2
34	Roots Blower	30	10	10	0	20	4.5	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
35	Saw - Band	10	10	10	0	10	3.5	25	5	1	0	1	0	1	0	0	0	0	0	0	8	2
36	Saw - Circular	40	10	10	0	20	3.5	40	5	1	0	1	0	1	0	0	0	0	0	0	8	2
37	Screen - vibrating	40	10	10	0	20	4.5	40	5	1	0	1	0	1	0	0	0	0	0	0	8	2
38	Shredder	40	10	10	0	30	3.5	60	5	1	0	1	0	1	0	0	0	0	0	0	8	2
39	Transformers, voltage regulators	10	10	5	0	10	3.5	25	5	0	0	0	0	1	0	0	0	0	0	0	8	2
40	Tumblers	20	10	10	0	20	4	25	5	1	0	1	0	0	0	0	0	0	0	0	8	2
41	Wood chipper	40	10	10	0	30	3.5	60	5	1	0	1	0	0	0	0	0	0	0	0	8	2

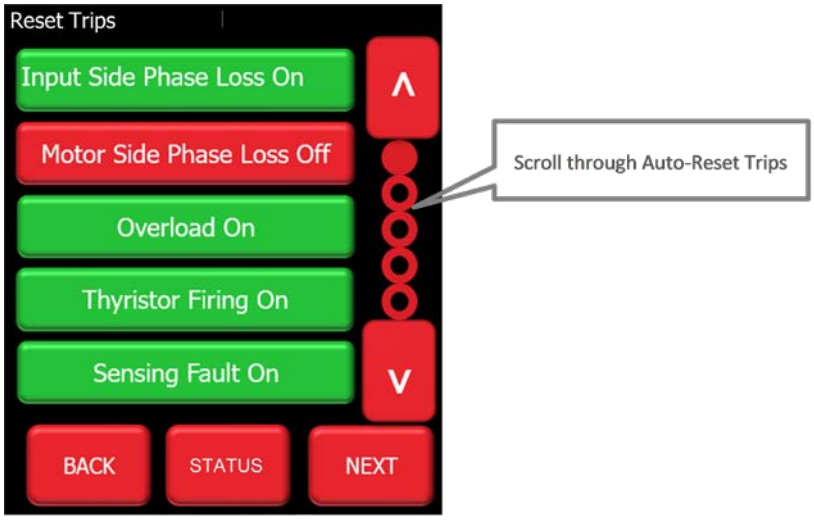
Auto Reset Function

The Auto Reset function automatically resets a selected number of faults and then attempts a start without user intervention. The time between the resets and the number of reset attempts are both programmable. If the Auto Reset has been successful, the Starter must operate trip free for a set time before the counters are re-initialized. If the number of attempts exceeds the set value, the Auto Reset terminates, and the counters will be re-initialized when the user gives a Reset or Stop signal.

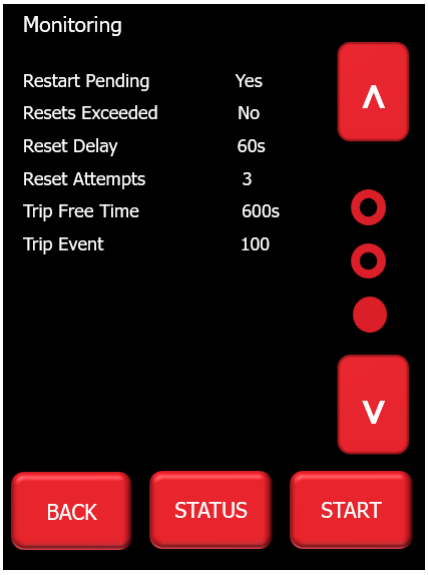
WARNING: When Auto Reset is enabled, a tripped motor may restart automatically after the Reset Delay time. This may result in equipment damage or personal injury if the function is used in an unsuitable application. Do not use this function without considering applicable local, national, and international standards, regulations, or industry guidelines.

The Auto-Reset function is accessible from the Advanced Menu (see Auto Reset section of parameter summaries on page 3–94):





NOTE: The status of the Auto-Reset function may be observed in the 'Monitor' menu (third page).



Mapping Auto Reset Status to Digital Outputs

Auto Reset Pending and Auto Reset Exceeded may be mapped to the Digital Outputs (D1 – D4). The selection screen is located in the I/O Menu:

I/O – DIGITAL OUTPUTS – DIGITAL OUTPUT (1 to 4) – SELECT FUNCTION

Two-Wire, Three-Wire and Communications control

The Auto Reset operates with two wire, three wire and communications start/stop. Generally, this is not a problem if the control supply is maintained, although warning should be given that in 3 wire and communications control the motor may start without a direct start signal (although it is implied as no stop had been given during the reset delay period).

Control Supply Loss

When the control supply is removed, the micro-controller is unable to make calculations in real time. To overcome this the calculations are made retrospectively when the starter powers up.

Two Wire: Following a control supply loss the Start signal must be retained (Fig 2).

Three Wire: The state of the start signal is saved when the control supply is removed, and if it is set to 'start,' the Auto Reset will continue at power up. When operating in this mode, the motor may start at power up without a start signal being present (Fig 3).

Modbus/Communications

The state of the start signal is saved when the control supply is removed and if it is set to 'start,' the Auto Reset will continue at power up. When operating in this mode, the motor may start at power up without a start signal being present (Fig 3).

Auto Restart Termination: If the time to re-establish the power exceeds the Reset Delay x Reset Attempts, the Auto Reset terminates.

Overload Trip

Following an overload trip, the overload will be at 100% and then cool exponentially to 0% after several minutes.

If a restart is attempted too soon, the starter will trip again as the overload would not have cooled to a sufficient level (Fig 5).

The Reset Delay must be long enough to allow the overload to cool. This also applies to the heatsink over-temperature trip.

Remote Start on Trip

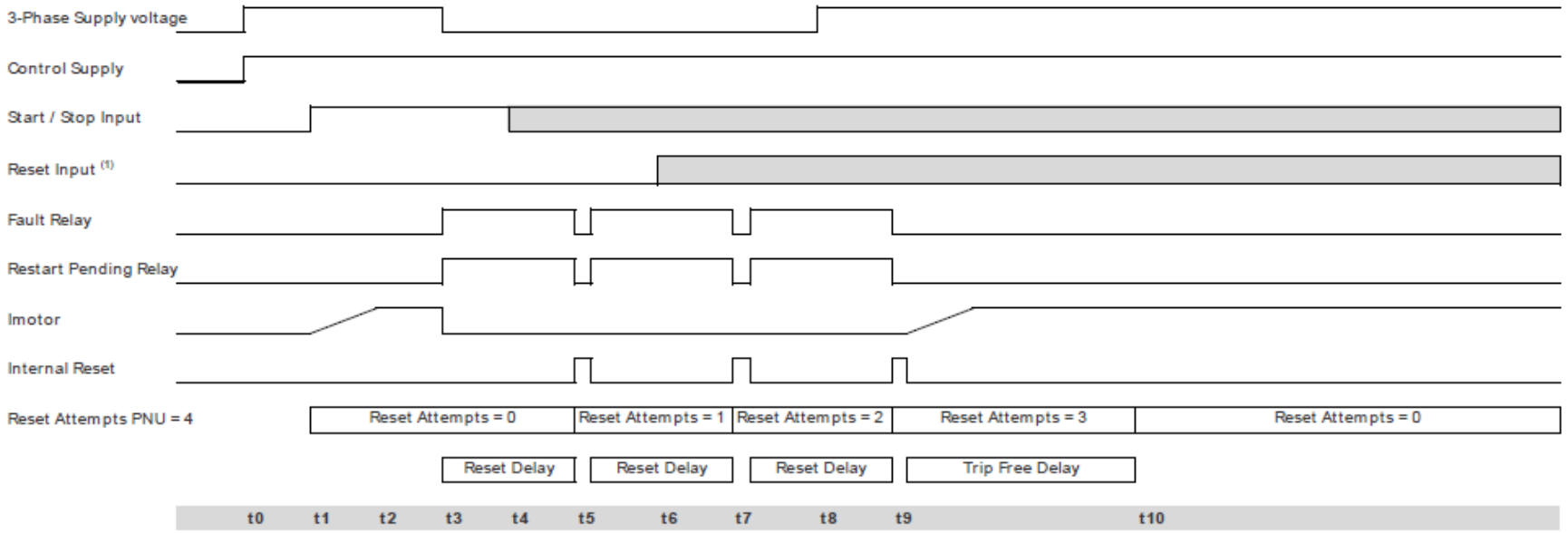
If Auto Reset is turned on, the Remote Start On Trip is disabled and will be ignored.

HAND AUTO

If the Hand Auto option is selected, the Hand selection will override the Auto Reset. The Auto Reset will be terminated, and the counters will be re-initialized.

Fig 1 : Auto Reset - Two Wire -Three Phase Supply Loss

The timing diagrams show the auto reset with a maintained two wire control system
The fault shown is a 3-phase supply loss only, the Control Supply maintained
The 3-Phase power is re-established (after the 2nd attempt) before the Reset Attempts counter is depleted
This assumes the start signal is maintained, if it is removed the Auto Reset terminates
Once power has been re-established there are no further outages and the counters are reset after the trip free time.



Sequence of events
t0 3 phase supply applied
t1 Start signal applied, motor starts
t2 Motor reaches full voltage
t3 3 phase supply removed
t4 Start signal must still be applied
If it has been removed Auto Reset feature re-initialises
t5 Reset delay = 0 Restart Attempt 1
t6 Rest Signal must be low
If the trip is reset the Auto Reset feature re-initialises
t7 Reset delay = 0 Restart Attempt 2
t8 3-Phase re-established
t9 Reset delay = 0 Restart Attempt 3
t10 Trip Free Delay = 0 Restart Attempt = 0

User Parameters (R/W)

PNU	Range	Default
Auto Reset	On/Off	Off
Reset Delay	0-7200s	0s
Reset Attempts	0-10	0
Reset Trips	All resettable trips	-
Trip Free Time	120-7200	600s

Monitor Parameters (R/O)

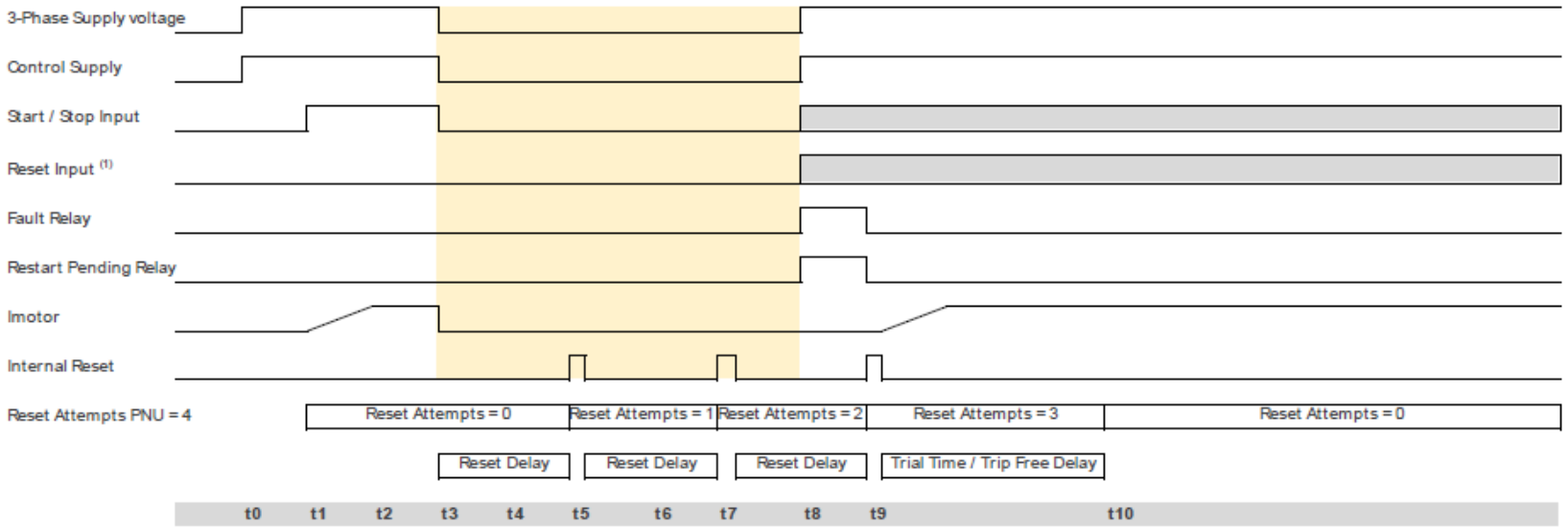
PNU	Range
Reset Attempts Remaining	10-0
Reset Delay Remaining	7200s-0s
Restart Pending	1-0
Trip Free Time Remaining	7200s-0s

Notes

For Two Wire control reset occurs automatically when the start signal changes state from low to high, reset shown is programmable reset input (1)

Fig 2 : Auto Reset - Two Wire - Control Supply Loss

The timing diagrams show the auto reset with a maintained two wire control system
The fault shown is a 3-phase supply loss **and** Control supply loss
The 3-Phase power and control supply are re-established (after the 2nd attempt) before the Reset Attempts counter is depleted
This assumes the start signal is maintained, if it is removed the Auto Reset terminates
Once power has been re-established there are no further outages and the counters are reset after the trip free time.



Sequence of events

t0 3 phase supply applied
t1 Start signal applied, motor starts
t2 Motor reaches full voltage
t3 3 phase supply removed
t5 Reset delay = 0 Restart Attempt 1
t7 Reset delay = 0 Restart Attempt 2
t8 3-Phase re-established
Start signal must still be applied
If it has been removed Auto Reset feature re-initialises
If the trip is reset the Auto Reset feature re-initialises
t9 Reset delay = 0 Restart Attempt 3
t10 Trip Free Delay = 0 Restart Attempt = 0

User Parameters (R/W)

PNU	Range	Default
Auto Reset	On/Off	Off
Reset Delay	0-7200s	0s
Reset Attempts	0-10	0
Reset Trips	All resettable trip	-
Trip Free Time	120-7200	600s

Monitor Parameters (R/O)

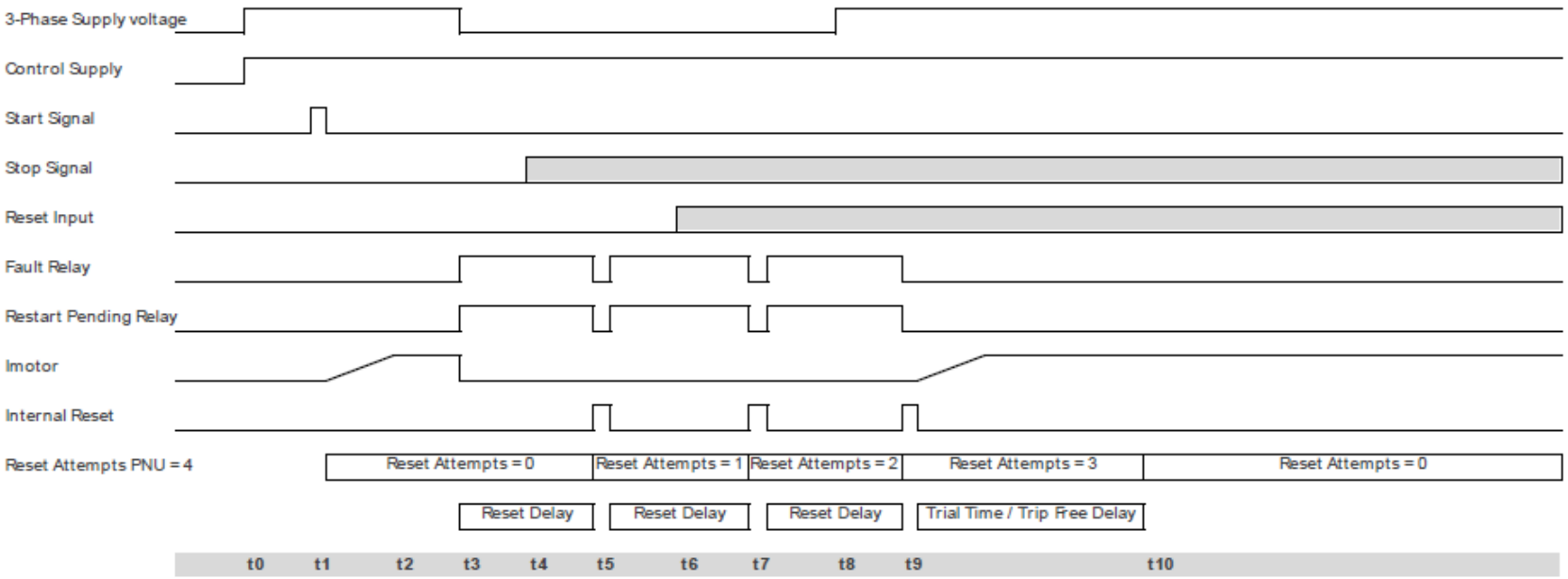
PNU	Range
Reset Attempts Remaining	10-0
Reset Delay Remaining	7200s-0s
Restart Pending	1-0
Trip Free Time Remaining	7200s-0s

Notes

The Starter is powered down between t3 and t8 (yellow shaded region)
During this time controller is unable to make the calculations in real time
To overcome this the calculations are made retrospectively at time t8
The Start Signal must be maintained, if it is not the Auto Restart will be terminated
For Two Wire control reset occurs automatically when the start signal changes state from low to high, reset shown is programmable reset input (1). If the time to re-establish the power exceeds (Reset Delay x Reset Attempts) to Auto Reset terminates

Fig 3 : Auto Reset - Three Wire - Three Phase Supply Loss

The timing diagrams show the auto reset with Three wire / Modbus control
The fault shown is a 3-phase supply loss only, the Control Supply maintained
The 3-Phase power is re-established (after the 2nd attempt) before the Reset Attempts counter is depleted
This assumes the momentary stop signal is not activated, if it is the Auto Reset terminates
Once power has been re-established there are no further outages and the counters are reset after the trip free time.



Sequence of events
t0 3 phase supply applied
t1 Start signal applied, motor starts
t2 Motor reaches full voltage
t3 3 phase supply removed
t4 Start signal must still be applied
If it has been removed Auto Reset feature re-initialises
t5 Reset delay = 0 Restart Attempt 1
t6 Rest Signal must be low
If the trip is reset the Auto Reset feature re-initialises
t7 Reset delay = 0 Restart Attempt 2
t8 3-Phase re-established
t9 Reset delay = 0 Restart Attempt 3
t10 Trip Free Delay = 0 Restart Attempt = 0

User Parameters (R/W)

PNU	Range	Default
Auto Reset	On/Off	Off
Reset Delay	0-7200s	0s
Reset Attempts	0-10	0
Reset Trips	All resettable trip	-
Trip Free Time	120-7200	600s

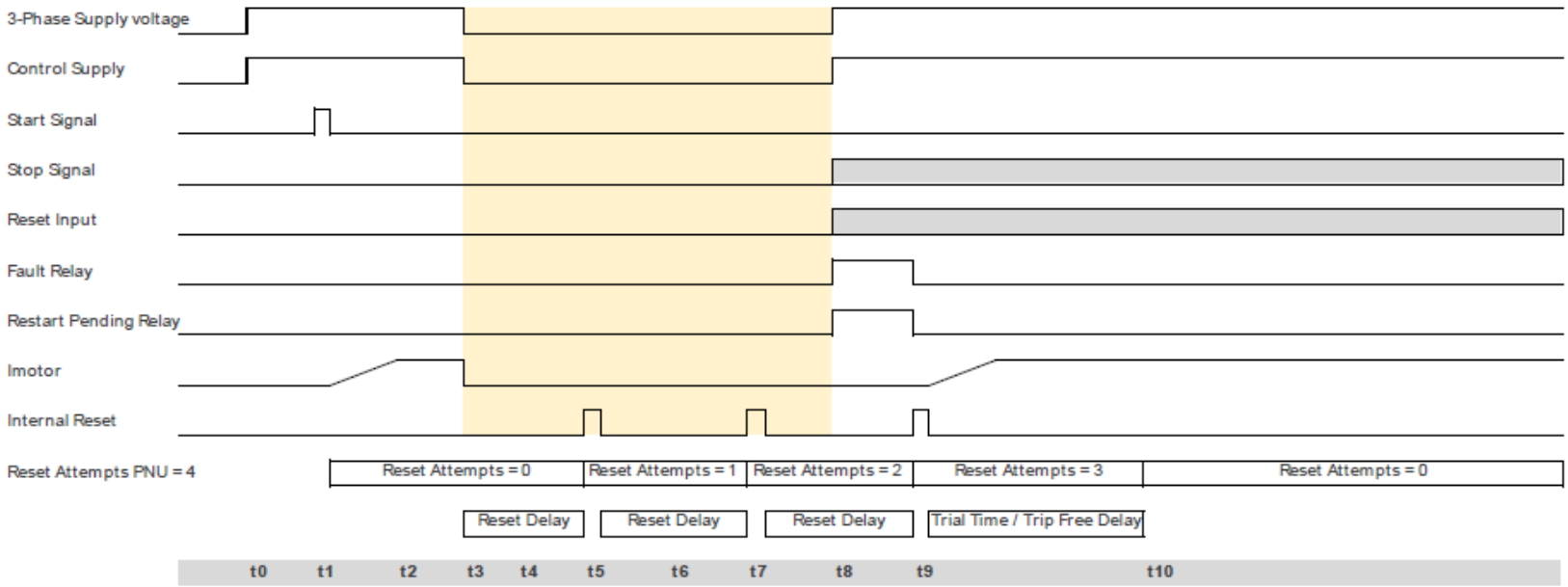
Monitor Parameters (R/O)

PNU	Range
Reset Attempts Remaining	10-0
Reset Delay Remaining	7200s-0s
Restart Pending	1-0
Trip Free Time Remaining	7200s-0s

Notes

Fig 4 : Auto Reset - Three Wire - Control Supply Loss

The timing diagrams show the auto reset with Three wire / Modbus control
The fault shown is a 3-phase supply loss **and** Control supply loss
The 3-Phase power and control supply are re-established (after the 2nd attempt) before the Reset Attempts counter is depleted
This assumes the momentary stop signal is not activated, if it is the Auto Reset terminates
Once power has been re-established there are no further outages and the counters are reset after the trip free time.



Sequence of events

t0 3 phase supply applied
t1 Start signal applied, motor starts
t2 Motor reaches full voltage
t3 3 phase supply removed
t5 Reset delay = 0 Restart Attempt 1
t7 Reset delay = 0 Restart Attempt 2
t8 3-Phase re-established
Start signal must still be applied
If it has been removed Auto Reset feature re-initialises
Rest Signal must be low
If the trip is reset the Auto Reset feature re-initialises
t9 Reset delay = 0 Restart Attempt 3
t10 Trip Free Delay = 0 Restart Attempt = 0

User Parameters (R/W)

PNU	Range	Default
Auto Reset	On/Off	Off
Reset Delay	0-7200s	0s
Reset Attempts	0-10	0
Reset Trips	All resettable trips	-
Trip Free Time	120-7200	600s

Monitor Parameters (R/O)

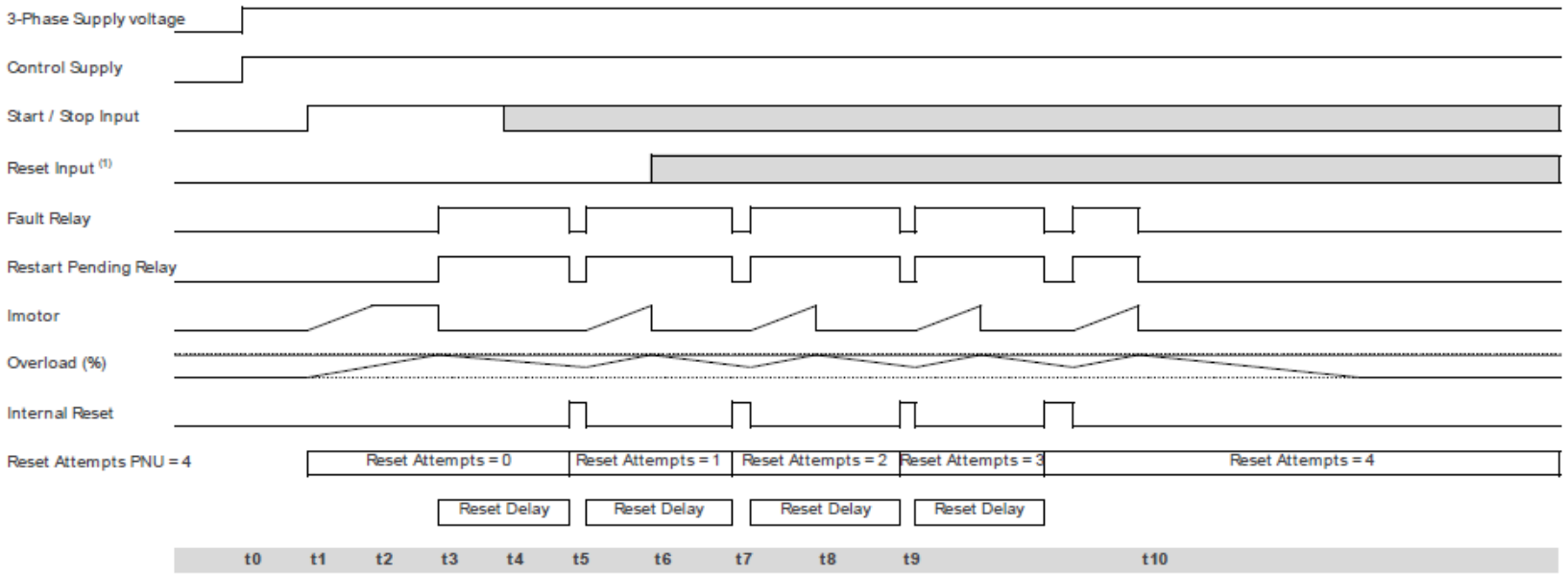
PNU	Range
Reset Attempts Remaining	10-0
Reset Delay Remaining	7200s-0s
Restart Pending	1-0
Trip Free Time Remaining	7200s-0s

Notes

The controller is powered down between t3 and t8 (yellow shaded region)
During this time controller is unable to make the calculations in real time
To overcome this the calculations are made retrospectively at time t8
Start signal state saved at power down and loaded at power up. **This means it will start without a start signal being present**
If the time to re-establish the power exceeds (Reset Delay x Reset Attempts) to Auto Reset terminates

Fig 5 : Auto Reset - Two Wire - Overload

The timing diagrams show the auto reset with a maintained two wire control system
The fault shown is an overload trip, the Control Supply maintained
In this instance the Auto Reset clears the trip but the overload (%) will take a certain amount of time to decay
If insufficient time is left before re-starts the overload will trip again repeatably until the Reset Attempts count exceeds it set value.
This must be considered and enough time left to allow the overload to decay to a low level



Sequence of events

t0 3 phase supply applied
t1 Start signal applied, motor starts
t2 Motor reaches full voltage
t3 3 phase supply removed
t4 Start signal must still be applied
If it has been removed Auto Reset feature re-initialises
t5 Reset delay = 0 Restart Attempt 1
t6 Rest Signal must be low
If the trip is reset the Auto Reset feature re-initialises
t7 Reset delay = 0 Restart Attempt 2
t8 3-Phase re-established
t9 Reset delay = 0 Restart Attempt 3
t10 Trip Free Delay = 0 Restart Attempt = 0

User Parameters (R/W)

PNU	Range	Default
Auto Reset	On/Off	Off
Reset Delay	0-7200s	0s
Reset Attempts	0-10	0
Reset Trips	All resettable trips	-
Trip Free Time	120-7200	600s

Monitor Parameters (R/O)

PNU	Range
Reset Attempts Remaining	10-0
Reset Delay Remaining	7200s-0s
Restart Pending	1-0
Trip Free Time Remaining	7200s-0s

Notes
In this instance the starter has failed to Auto Restart in the set number of attempts
The starter will remain in the tripped state until reset
To overcome this the Reset Delay time should be extended to allow the overload to cool
For Two Wire control reset occurs automatically when the start signal changes state from low to high, reset shown is programmable reset input (1)

Parameter Summary

Summary of Parameters Not Configurable Through Touchscreen Menu

These parameters are configurable through network communications.

Summary – Parameters Not Configurable Through Touchscreen								
Group	**Parameter**	**Units**	**Range**	**Read / Write**	**Modbus**		**Default Setting**	**User Setting**
					Address	**Hex**		
Control Commands *(for Digital Inputs)* [detailed info starts page 3–25]	P0.0 – Start/Stop	toggle	OFF (Stop) / ON (Start)	R/W	17920	4600	OFF	
	P0.1 – Freeze Ramp	toggle	OFF / ON	R/W	18240	4740	OFF	
	P0.2 – Reset	toggle	OFF / ON	R/W	18368	47C0	OFF	
	P0.3 – External Trip	toggle	OFF / ON	R/W	18880	49C0	OFF	
Status Indications [detailed info starts page 3–26]	P0.4 – Ready	–	OFF / ON	Read	37184	9140	OFF	–
	P0.5 – Enabled	–	OFF / ON	Read	37248	9180	OFF	–
	P0.6 – Error	–	OFF / ON	Read	37312	91C0	OFF	–
	P0.7 – Running	–	OFF / ON	Read	37632	9300	OFF	–
	P0.8 – End Of Start	–	OFF / ON	Read	37760	9380	OFF	–
	P0.9 – Current Limit	–	OFF / ON	Read	37824	93C0	OFF	–
	P0.10 – iERS Active	–	OFF / ON	Read	38080	94C0	OFF	–
	P0.12 – I/O Status Register	–	0 to 255	Read	62016	F240	OFF	–
Block Transfer [detailed info starts page 3–24]	P0.20~P0.35 – Block Transfer Address Pointers	–	0 to 65535	R/W	17600 ~17615	44C0 ~44CF	OFF	
	P0.40~P0.55 – Block Transfer Data Locations	–	0 to 4,294,967,295	R/W	17664 ~17694	4500 ~451E	OFF	

Summary of Parameters for Auto Setup

Summary – Parameters for Touchscreen Setup – "Auto Setup" Category									
	Group	**Parameter**	**Units**	**Range**	**Read / Write**	**Modbus**		**Default Setting**	**User Setting**
						Address	**Hex**		
Auto Setup	***Auto Setup*** [detailed info starts page 3–30]	P0.11 – Application	n/a	See the previous "Auto Setup Parameter Settings" table (*page 3–4*)	R/W	19200	4B00	Default	
		P5.1 – Trip Class (Automatically selected from Application selection)	n/a	10, 20, 30	R/W	25664	6440	10	
		P5.0 – Motor Current	A	10% to 100% of SR55 rated current	R/W	25728	6480	100%	
		P7.0 – Control Method	n/a	Local Touch Screen User Programmable Two Wire Control Three Wire Control Modbus Network	R/W	59392	E800	Local Touch Screen	
		P10.0 – Digital Input Voltage	V	230VAC, 110VAC, 24VDC	R/W	10880	2A80	230VAC	

Summary of Parameters for Individual Parameter Setup

(grouped by touchscreen navigation)

Parameters from "Advanced" Menu Category – Summary

Summary – Parameters for Touchscreen Setup – "Advanced" Category

	Group	Parameter	Units	Range	Read / Write	Modbus		Default Setting	User Setting
						Address	Hex		
Category – Advanced	P1.0 – Save Parameters		toggle	NO / YES	R/W	62144	F2C0	NO	
	(P2) Automatic Settings [detailed info starts page 3–32]	P2.0 – Automatic Pedestal	toggle	OFF / ON	R/W	19840	4D80	OFF	
		P2.1 – Automatic Ramp	toggle	OFF / ON	R/W	20352	4F80	OFF	
		P2.2 – Automatic End Start (1)	toggle	OFF / ON	R/W	19968	4E00	OFF	
		P2.3 – Automatic Stop	toggle	OFF / ON	R/W	20160	4EC0	OFF	
		P2.4 – Automatic Stop Profile	%	0 to 100	R/W	20608	5080	50	
		P2.5 – Automatic End Stop	toggle	OFF / ON	R/W	20416	4FC0	OFF	
		P2.6 – Automatic Impact Load	toggle	OFF / ON	R/W	20480	5000	OFF	
		P2.7 – Auto Smooth Stop	toggle	OFF / ON	R/W	20224	4F00	OFF	
		P2.8 – Auto Smoothing Level	%	10 to 100	R/W	20672	50C0	50	
		P2.9 – Automatic End Start (2)	toggle	OFF / ON	R/W	19904	4DC0	OFF	
		P2.10 – Automatic End Start (3)	toggle	OFF / ON	R/W	20032	4E40	OFF	
		P2.11 – Rate End Start (3)	%	0 to 100	R/W	768	0300	50	
	(P3) Start Settings [detailed info starts page 3–35]	P3.0 – Start Time	s	1 to 300	R/W	7104	1BC0	10	
		P3.1 – Start Pedestal	%	10 to 100	R/W	704	02C0	20	
		P3.2 – Start Current Limit → Start Current Limit Trip	toggle	OFF / ON	R/W	53790	D21E	ON	
		P3.3 – Start Current Limit → Start Current Limit Level	A	100% mtr FLA to 450% SR55 rated A	R/W	26880	6900	350% mtr FLA	
		P3.4 – Start Current Limit → Start Current Limit Time	s	1 to 300	R/W	26944	6940	30	
		P3.5 – Kick Start → Kick Start	toggle	OFF / ON	R/W	320	0140	OFF	
		P3.6 – Kick Start → Kick Start Time	ms	10 to 2,000	R/W	7040	1B80	100	
		P3.7 – Kick Start → Kick Start Pedestal	%	30 to 80	R/W	640	0280	75	
		P3.8 – Contactor Delay	ms	20 to 800	R/W	8320	2080	160	
	(P4) Stop Settings [detailed info starts page 3–38]	P4.0 – Stop Time	s	0 to 300	R/W	7296	1C80	0	
		P4.1 – Stop Pedestal	%	10 to 40	R/W	896	0380	10	
		P4.2 – Stop Current Limit → Stop Current Limit Trip	toggle	OFF / ON	R/W	53791	D21F	OFF	
		P4.3 – Stop Current Limit → Stop Current Limit Level	A	100% mtr FLA to 450% SR55 rated A	R/W	28800	7080	350% mtr FLA	
		P4.4 – Stop Current Limit → Stop Current Limit Time	s	1 to 300	R/W	28864	70C0	10	

Summary – Parameters for Touchscreen Setup – "Advanced" Category (continued)									
–	Group	Parameter	Units	Range	Read / Write	Modbus Address	Modbus Hex	Default Setting	User Setting
Category – Advanced	(P5) Motor Protection [detailed info starts page 3–39]	P5.0 – Motor Current	A	10% to 100% of SR55 rated A	R/W	25728	6480	100%	
		P5.1 – Trip Class	class	10, 20, 30	R/W	25664	6440	10	
		Low Current Settings → P5.2 – Low Current Trip	toggle	OFF / ON	R/W	53787	D21B	OFF	
		Low Current Settings → P5.3 – Low Current Trip Level	A	25% to 100% of motor FLA	R/W	26304	66C0	25%	
		Low Current Settings → P5.4 – Low Current Trip Time	ms	100 to 9,000	R/W	26368	6700	100	
		Shearpin Settings → P5.5 – Shearpin Trip	toggle	OFF / ON	R/W	53793	D221	ON	
		Shearpin Settings → P5.6 – Shearpin Trip Current	A	100% mtr FLA to 450% SR55 rated A	R/W	27584	6BC0	450% SR55 A	
		Shearpin Settings → P5.7 – Shearpin Trip Time	ms	100 to 9,000	R/W	27648	6C00	100	
		Overload Settings → P5.8 – Overload Trip	toggle	OFF / ON	R/W	53792	D220	ON	
		Overload Settings → P5.9 – Overload Level	A	50% to 125% of motor FLA	R/W	28224	6E40	115%	
	(P6) iERS [detailed info starts page 3–42]	P6.0 – iERS	toggle	OFF / ON	R/W	21120	5280	ON *	
		P6.1 – Dwell Time	s	1 to 300	R/W	7360	1CC0	5	
		P6.2 – iERS Rate	%	0 to 100	R/W	21184	52C0	25	
		P6.3 – iERS Level	%	0 to 100	R/W	21376	5380	100	
		P6.4 – Fixed Voltage (Level)	V	100 to 500	R/W	35200	8980	500	
		P6.5 – Fixed Voltage	toggle	OFF / ON	R/W	35264	89C0	OFF	
		* NOTE: iERS (P6.0) default setting is "OFF" beginning in firmware version 59.35.							
	(P7) [detailed info page 3–44]	P7.0 – Control Method	–	Local Touch Screen User Programmable Two Wire Control Three Wire Control Modbus Network	R/W	59392	E800	Local Touch Screen	
	(P8) Trip Settings [detailed info starts page 3–45]	P8.0 – Trip Sensitivity	%	0 to 100	R/W	44864	AF40	0	
		P8.1 – Cover Open Trip	toggle	OFF / ON	R/W	53803	D22B	OFF	
		P8.2 – Shearpin Trip	toggle	OFF / ON	R/W	53793	D221	ON	
		P8.3 – Overload Trip	toggle	OFF / ON	R/W	53792	D220	ON	
		P8.4 – Low Current Trip	toggle	OFF / ON	R/W	53787	D21B	OFF	
		P8.5 – Start Current Limit Trip	toggle	OFF / ON	R/W	53790	D21E	ON	
		P8.6 – Stop Current Limit Trip	toggle	OFF / ON	R/W	53791	D21F	OFF	
		P8.7 – PTC Motor Thermistor Trip	toggle	OFF / ON	R/W	53794	D222	OFF	
		P8.8 – L1-L2-L3 Trip	toggle	OFF / ON	R/W	53808	D230	OFF	
		P8.9 – L1-L3-L2 Trip	toggle	OFF / ON	R/W	53807	D22F	OFF	
		P8.10 – Remote Start Trip	toggle	OFF / ON	R/W	53804	D22C	ON	
		P8.11 – Current Sensor Trip	toggle	OFF / ON	R/W	53775	D20F	OFF	
		P8.12 – Fan Trip	toggle	OFF / ON	R/W	53782	D216	ON	
		P8.13 – Communications Trip	toggle	OFF / ON	R/W	53796	D224	ON	
		P8.14 – Shut Down (1)	toggle	OFF / ON	R/W	53769	D209	ON	
		P8.15 – Shut Down (2)	toggle	OFF / ON	R/W	53770	D20A	ON	
		P8.16 – Thyristor Firing Trip	toggle	OFF / ON	R/W	53774	D20E	ON	
		P8.17 – Motor Side Phase Loss	toggle	OFF / ON	R/W	53777	D211	ON	
		P8.18 – Sensing Fault Trip	toggle	OFF / ON	R/W	53781	D215	ON	
		P8.19 – Thermal Sensor Trip	toggle	OFF / ON	R/W	53768	D208	ON	
		P8.20 – External Trip Enable	toggle	OFF / ON	R/W	53795	D223	OFF	
		P8.21 – Main Board Trip	toggle	OFF / ON	R/W	53800	D228	ON	
		P8.22 – Keypad Trip	toggle	OFF / ON	R/W	53798	D226	OFF	
		P8.23 – Logging Trip	toggle	OFF / ON	R/W	53799	D227	OFF	
		P8.24 – Input Side Phase Loss	toggle	OFF / ON	R/W	53762	D202	ON	

Summary – Parameters for Touchscreen Setup – "Advanced" Category (continued)									
–	Group	Parameter	Units	Range	Read / Write	Modbus		Default Setting	User Setting
						Address	Hex		
Adv	(P9) [page 3–52]	P9.0 – Firing Mode	toggle	In-Delta / In-Line	R/W	128	0080	In-Line	
		P9.1 – Legacy Delta Mode	toggle	OFF / ON	R/W	192	00C0	OFF	
		P9.2 – Main Contactor Control	toggle	OFF / ON	R/W	14144	3740	OFF	
		P9.3 – Hand-Auto Control	toggle	OFF / ON	R/W	28160	6E00	OFF	

Parameters From "I/O" Menu Category – Summary

Summary – Parameters for Touchscreen Setup – "I/O" Category									
Category – I/O	Group	Parameter	Units	Range	Read / Write	Modbus		Default Setting	User Setting
						Address	Hex		
	(P10) Digital Inputs [detailed info starts page 3–54]	P10.0 – Digital Input Voltage	V	230VAC, 110VAC, 24VDC	R/W	10880	2A80	230VAC	
		P7.0 – Control Method	–	Local Touch Screen User Programmable Two Wire Control Three Wire Control Modbus Network	R/W	59392	E800	Local Touch Screen	
		P10.1 – Digital Input 1 (D1-1I) → Select Function	–	Off Start / Stop Freeze Ramp Reset iERS External Trip	R/W	10944	2AC0	Start / Stop	
		P10.2 – Digital Input 1 (D1-1I) → High Input =1 Sets Value	toggle	OFF / ON	R/W	11264	2C00	ON	
		P10.3 – Digital Input 2 (D1-2I) → Select Function	–	same as DI1 function selections	R/W	10945	2AC1	OFF	
		P10.4 – Digital Input 2 (D1-2I) → High Input =1 Sets Value	toggle	OFF / ON	R/W	11266	2C02	ON	
		P10.5 – Digital Input 3 (D2-1I) → Select Function	–	same as DI1 function selections	R/W	10946	2AC2	Reset	
		P10.6 – Digital Input 3 (D2-1I) → High Input =1 Sets Value	toggle	OFF / ON	R/W	11268	2C04	ON	
	(P11) Digital Outputs [detailed info starts page 3–57]	P11.0 – Digital Output 1 N/C (12) → Select Function	–	Off Ready Enabled Error Running End Of Start Current Limit iERS Active Auto Reset Pending Auto Reset Exceeded Shearpin Low Current	R/W	11584	2D40	Error	
		P11.1 – Digital Output 1 N/C (12) → High Output =1 When Value	toggle	OFF / ON	R/W	11904	2E80	ON	
		P11.2 – Digital Output 2 N/O (24) → Select Function	–	same as DO1 function selections	R/W	11585	2D41	Error	
		P11.3 – Digital Output 2 N/O (24) → High Output =1 When Value	toggle	OFF / ON	R/W	11906	2E82	ON	
		P11.4 – Digital Output 3 N/O (34) → Select Function	–	same as DO1 function selections	R/W	11586	2D42	Run-ning	
		P11.5 – Digital Output 3 N/O (34) → High Output =1 When Value	toggle	OFF / ON	R/W	11908	2E84	ON	
		P11.6 – Digital Output 4 N/O (44) → Select Function	–	same as DO1 function selections	R/W	11587	2D43	End Of Start	
		P11.7 – Digital Output 4 N/O (44) → High Output =1 When Value	toggle	OFF / ON	R/W	11910	2E86	ON	
	(P12) Analog Inputs [detailed info starts page 3–60]	P12.0 – Analog Input Type	toggle	0–10V / 4–20mA	R/W	9600	2580	0–10V	
		P12.1 – Select Function	–	Off Current Limit Start Current Shearpin Current Overload	R/W	9664	25C0	OFF	
		P12.2 – Scaling Level	–	0 to 16,384	R/W	9728	2600	16,384	

Parameter Summary for Touchscreen Setup – "I/O" Category (continued)									
–	Group	Parameter	Units	Range	Read / Write	Modbus PNU	Modbus Hex	Default Setting	User Setting
Category – I/O	(P13) Analog Outputs [detailed info starts page 3–61]	P13.0 – Analog Output Type	toggle	0–10V / 4–20mA	R/W	8960	2300	0–10V	
		P13.1 – Select Function	–	Off Current Measured Overload Overload SCR P-Total	R/W	9024	2340	OFF	
		P13.2 – Scaling Level	–	0 to 16,384	R/W	9088	2380	0	
	(P14) [details page 3–62]	P14.0 – PTC Motor Thermistor Trip	toggle	OFF / ON	R/W	53794	D222	OFF	

Parameters from "Monitor" Menu Category – Summary

Summary – Parameters for Touchscreen Setup – "Monitor" Category									
	Group	Parameter	Units	Range	Read / Write	Modbus Address	Modbus Hex	Default Setting	User Setting
Category – Monitor	(P15) Monitoring [detailed info starts page 3–63]	P15.0 – Line Frequency	Hz	45 to 65	Read	32000	7D00	n/a	–
		P15.1 – Phase Rotation	–	L1-L2-L3 or L1-L3-L2	Read	32064	7D40	L1-L2-L3	–
		P15.2 – I1	A	0 to 10,000	Read	33536	8300	0	–
		P15.3 – I2	A	0 to 10,000	Read	33538	8302	0	–
		P15.4 – I3	A	0 to 10,000	Read	33540	8304	0	–
		P15.5 – Current I rms	A	0 to 10,000	Read	32896	8080	0	–
		P15.6 – V rms (Approx)	V	0 to 500	Read	32960	80C0	0	–
		P15.7 – Real Power Factor	–	0 to 1	Read	33024	8100	0	–
		P15.8 – True Power P	kW	0 to 10,000	Read	34688	8780	0	–
		P15.9 – Apparent Power S	kVA	0 to 10,000	Read	34816	8800	0	–
		P15.10 – Reactive Power Q	kVAR	0 to 10,000	Read	34944	8880	0	–
		P15.11 – iERS Saving Level	%	0 to 100	Read	35008	88C0	0	–
		P15.12 – Delay Angle	degree	0° to 55°	Read	22400	5780	0	–
		P15.13 – Backstop	degree	0° to 55°	Read	23040	5A00	0	–
		P15.14 – Delay Max	degree	0° to 55°	Read	22464	57C0	0	–
		P15.15 – Pres PF Degrees	degree	0° to 90°	Read	21824	5540	0	–
		P15.16 – Ref PF Degrees	degree	0° to 90°	Read	21760	5500	0	–
		P15.17 – Start Saving Level	%	50% to 80% of mtr FLA	Read	21320	5348	80%	–
		P18.0 – Last Peak (Start) Current	A	0 to 10,000	Read	38400	9600	0	–
		P15.18 – HeatSink Temp	°C	-20°C to 80°C	Read	36544	8EC0	ambient	–
		P15.19 – Motor Thermistor	–	0 to 1024	Read	10432	28C0	0	–
		P15.20 – Overload	%	0 to 100	Read	33408	8280	0	–

Parameters from "Log" Menu Category – Summary

Summary – Parameters for Touchscreen Setup – "Log" Category									
	Group	**Parameter**	**Units**	**Range**	**Read / Write**	**Modbus**		**Default Setting**	**User Setting**
						Address	**Hex**		
Category – Log	***(P16)* Event Times*** for Last Peak Start Currents, Last Temperatures, Last Overloads [detailed info starts page 3–69]	P16.0 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload	hh : mm : ss	Time since midnight; Days since 01/01/1984	Read	38464	9640	GMT	–
		P16.1 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -1			Read	38467	9643		–
		P16.2 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -2			Read	38470	9646		–
		P16.3 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -3			Read	38473	9649		–
		P16.4 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -4			Read	38476	964C		–
		P16.5 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -5			Read	38479	964F		–
		P16.6 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -6			Read	38482	9652		–
		P16.7 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -7			Read	38485	9655		–
		P16.8 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -8			Read	38488	9658		–
		P16.9 – (Event Time) Last Peak Start Current / Last Temperature / Last Overload -9			Read	38491	965B		–
	** P16 event times are associated with parameters P18, P20, and P21, and the times are displayed on each of those logs.*								
	(P17) Trip Log [detailed info starts page 3–72]	P17.0 – Last Trip	–	0 to 65,535	Read	60608	ECC0	0	–
		P17.1 – Last Trip -1	–	0 to 65,535	Read	60609	ECC1	0	–
		P17.2 – Last Trip -2	–	0 to 65,535	Read	60610	ECC2	0	–
		P17.3 – Last Trip -3	–	0 to 65,535	Read	60611	ECC3	0	–
		P17.4 – Last Trip -4	–	0 to 65,535	Read	60612	ECC4	0	–
		P17.5 – Last Trip -5	–	0 to 65,535	Read	60613	ECC5	0	–
		P17.6 – Last Trip -6	–	0 to 65,535	Read	60614	ECC6	0	–
		P17.7 – Last Trip -7	–	0 to 65,535	Read	60615	ECC7	0	–
		P17.8 – Last Trip -8	–	0 to 65,535	Read	60616	ECC8	0	–
		P17.9 – Last Trip -9	–	0 to 65,535	Read	60617	ECC9	0	–
	(P18) Start Current Log [detailed info starts page 3–75]	P18.0 – Last Peak (Start) Current	A	0 to 10,000	Read	38400	9600	0	–
		P18.1 – Last Peak Start Current -1	A	0 to 10,000	Read	38402	9602	0	–
		P18.2 – Last Peak Start Current -2	A	0 to 10,000	Read	38404	9604	0	–
		P18.3 – Last Peak Start Current -3	A	0 to 10,000	Read	38406	9606	0	–
		P18.4 – Last Peak Start Current -4	A	0 to 10,000	Read	38408	9608	0	–
		P18.5 – Last Peak Start Current -5	A	0 to 10,000	Read	38410	960A	0	–
		P18.6 – Last Peak Start Current -6	A	0 to 10,000	Read	38412	960C	0	–
		P18.7 – Last Peak Start Current -7	A	0 to 10,000	Read	38414	960E	0	–
		P18.8 – Last Peak Start Current -8	A	0 to 10,000	Read	38416	9610	0	–
		P18.9 – Last Peak Start Current -9	A	0 to 10,000	Read	38418	9612	0	–

Summary – Parameters for Touchscreen Setup – "Log" Category (continued)									
–	Group	Parameter	Units	Range	Read / Write	Modbus Address	Modbus Hex	Default Setting	User Setting
Category – Log	(P19) Stop Current Log [detailed info starts page 3–78]	P19.0 – Last Peak Stop Current	A	0 to 10,000	Read	39040	9880	0	–
		P19.1 – Last Peak Stop Current -1	A	0 to 10,000	Read	39042	9882	0	–
		P19.2 – Last Peak Stop Current -2	A	0 to 10,000	Read	39044	9884	0	–
		P19.3 – Last Peak Stop Current -3	A	0 to 10,000	Read	39046	9886	0	–
		P19.4 – Last Peak Stop Current -4	A	0 to 10,000	Read	39048	9888	0	–
		P19.5 – Last Peak Stop Current -5	A	0 to 10,000	Read	39050	988A	0	–
		P19.6 – Last Peak Stop Current -6	A	0 to 10,000	Read	39052	988C	0	–
		P19.7 – Last Peak Stop Current -7	A	0 to 10,000	Read	39054	988E	0	–
		P19.8 – Last Peak Stop Current -8	A	0 to 10,000	Read	39056	9890	0	–
		P19.9 – Last Peak Stop Current -9	A	0 to 10,000	Read	39058	9892	0	–
	(P20) Temperature Log [detailed info starts page 3–81]	P20.0 – Last Temperature	°C	-20°C to 80°C	Read	39680	9B00	ambient	–
		P20.1 – Last Temperature -1	°C	-20°C to 80°C	Read	39681	9B01	ambient	–
		P20.2 – Last Temperature -2	°C	-20°C to 80°C	Read	39682	9B02	ambient	–
		P20.3 – Last Temperature -3	°C	-20°C to 80°C	Read	39683	9B03	ambient	–
		P20.4 – Last Temperature -4	°C	-20°C to 80°C	Read	39684	9B04	ambient	–
		P20.5 – Last Temperature -5	°C	-20°C to 80°C	Read	39685	9B05	ambient	–
		P20.6 – Last Temperature -6	°C	-20°C to 80°C	Read	39686	9B06	ambient	–
		P20.7 – Last Temperature -7	°C	-20°C to 80°C	Read	39687	9B07	ambient	–
		P20.8 – Last Temperature -8	°C	-20°C to 80°C	Read	39688	9B08	ambient	–
		P20.9 – Last Temperature -9	°C	-20°C to 80°C	Read	39689	9B09	ambient	–
	(P21) Overload Log [detailed info starts page 3–85]	P21.0 – Last Overload	%	0 to 100	Read	40320	9D80	0	–
		P21.1 – Last Overload -1	%	0 to 100	Read	40321	9D81	0	–
		P21.2 – Last Overload -2	%	0 to 100	Read	40322	9D82	0	–
		P21.3 – Last Overload -3	%	0 to 100	Read	40323	9D83	0	–
		P21.4 – Last Overload -4	%	0 to 100	Read	40324	9D84	0	–
		P21.5 – Last Overload -5	%	0 to 100	Read	40325	9D85	0	–
		P21.6 – Last Overload -6	%	0 to 100	Read	40326	9D86	0	–
		P21.7 – Last Overload -7	%	0 to 100	Read	40327	9D87	0	–
		P21.8 – Last Overload -8	%	0 to 100	Read	40328	9D88	0	–
		P21.9 – Last Overload -9	%	0 to 100	Read	40329	9D89	0	–
	(P22) Totals Log [page 3–87]	P22.0 – Number of Starts	–	0 to 4,294,836,225	Read	35840	8C00	0	–
	(P23) [page 3–87]	P23.0 – Download Log File	–	–	R/W	n/a	n/a	–	
	(P24) [page 3–87]	P24.0 – Clear Trip Log	–	–	R/W	n/a	n/a	–	

PARAMETERS FROM "DEVICE" MENU CATEGORY – SUMMARY

Summary – Parameters for Touchscreen Setup – "Device" Category									
	Group	**Parameter**	**Units**	**Range**	**Read / Write**	**Modbus**		**Default Setting**	**User Setting**
						Address	**Hex**		
Category – Device	***(P25)*** [detailed info starts page 3–88; **See important P25.4 PASSCODE WARNING!**]	P25.0 – Update Firmware	–	–	R/W	–	–	–	
		P25.1 – Date	–	current date	R/W	–	–	–	
		P25.2 – Time	hh:mm:ss	GMT / local	R/W	14720	3980	GMT	
		P25.3 – Language	–	*refer to the "Parameter Details" section for list of available languages*	R/W	13376	3440	English	
		P25.4 – Passcode	–	0 to 255 per Byte	R/W	12864 12865 12866 12867	3240 3241 3242 3243	n/a	
		P25.5 – Backlight Timeout	s	0 to 3,600	R/W	14208	3780	60	
	(P26) ***Networks*** [detailed info starts page 3–90]	P26.0 – Modbus Network Address	–	1 to 32	R/W	16000	3E80	1	
		P26.1 – Modbus Network Baud Rate	Baud	9,600 19,200 38,400 57,600 115,200	R/W	16064	3EC0	19,200	
		P26.2 – Modbus Network Parity	–	none / odd / even	R/W	16128	3F00	even	
		P26.3 – Modbus Network Traffic LEDs	toggle	OFF / ON	R/W	14080	3700	OFF	
		P26.4 – Anybus / ModbusTCP / EtherNetIP	–	Address Serial Number Firmware Version Connection	Read	–	–	–	–
		P26.5 – Timeout	ms	0 to 60,000	R/W	15808	3DC0	5,000	
		P26.6 – Communications Shutdown	toggle	OFF / ON	R/W	53802	D22A	ON	
	(P27) [detailed info starts page 3–92; **See important P27.0 & P27.2 PASSCODE WARNINGS!**]	***P27.0 – Reset Defaults***	***–***	***Yes / No***	***R/W***	***62080***	***F280***	***No***	
		P27.1 – About	–	SR55 model #, serial #, software versions	Read	–	–	–	–
		P27.2 – Screen Lock	toggle	OFF / ON	R/W	12992	32C0	OFF	
		P27.3 – Date Format	–	dd/mm/yyyy mm/dd/yyyy	R/W	13248	33C0	dd/mm/yyyy	
		P27.4 – Temperature Format	degrees	°C / °F	R/W	13312	3400	°C	
		P27.5 – Parameters to USB		***Yes / No***	***R/W***	***62272***	***F340***	***No***	
		P27.6 – Parameters from USB		***Yes / No***	***R/W***	***62336***	***F380***	***No***	
		P27.7 – Service Code	for manufacturer's use only			13120	3340		

Parameters from "Auto Reset" Menu Category – Summary

Summary – Parameters for Touchscreen Setup – Auto Reset Category									
	Group	**Parameter**	**Units**	**Range**	**Read / Write**	**Modbus**		**Default Setting**	**User Setting**
						Address	**Hex**		
Category – Auto Reset		Auto Reset	N/A	OFF/ON	R/W	20736	5100	Off	
		Reset Delay	s	0 to 7200	R/W	20737	5101	0	
		Reset Attempts	N/A	0 to 10	R/W	14144	3740	0	
		Trip Free Time	s	0 to 7200	R/W	20736	5100	600	
		Input Side Phase Loss	N/A	OFF/ON	R/W	20800	5140	ON	
		Thermal	N/A	OFF/ON	R/W	20801	5141	ON	
		Thyristor Firing	N/A	OFF/ON	R/W	20802	5142	ON	
		Motor Side Phase Loss	N/A	OFF/ON	R/W	20803	5143	ON	
		Control Voltage Low	N/A	OFF/ON	R/W	20805	5145	ON	
		Sensing Fault	N/A	OFF/ON	R/W	20806	5146	ON	
		Fan	N/A	OFF/ON	R/W	20809	5149	ON	–
		Low Current	N/A	OFF/ON	R/W	20810	514A	ON	
		Current Limit Time Out	N/A	OFF/ON	R/W	20811	514B	ON	
		Overload	N/A	OFF/ON	R/W	20812	514C	ON	
		Shearpin	N/A	OFF/ON	R/W	20813	514D	ON	–
		PTC Thermistor	N/A	OFF/ON	R/W	20814	514E	ON	
		External	N/A	OFF/ON	R/W	20815	514F	ON	
		Communications	N/A	OFF/ON	R/W	20813	5150	ON	
		Bypass	N/A	OFF/ON	R/W	20817	5151	ON	
		Cover	N/A	OFF/ON	R/W	20818	5152	OFF	
		Phase Rotation	N/A	OFF/ON	R/W	20820	5154	OFF	
		Operation 4	N/A	OFF/ON	R/W	20821	5155	ON	
		Current Sensor	N/A	OFF/ON	R/W	20822	5156	ON	
		Operation 3	N/A	OFF/ON	R/W	20823	5157	ON	
		Operation 1	N/A	OFF/ON	R/W	20824	5158	ON	
		Operation 2	N/A	OFF/ON	R/W	20825	5159	ON	
		Operation 5	N/A	OFF/ON	R/W	20826	515A	ON	

Block Transfer Parameters

Parameters P0.20~P0.35 and P0.40~P0.55

NOTE: These Block Transfer parameters can only be accessed through Modbus; not through the Touchscreen Menu.

Block Transfer allows parameters from many different Parameter Groups to be consolidated into one Modbus communication message. This procedure can greatly simplify PLC programming and reduce network traffic. A maximum of 16 parameters can be grouped together into one block. The sixteen (16) two-byte Block Transfer Address Pointer Registers have 16 correlating four-byte Block Transfer Data Registers that correspond with the Pointer registers. The Pointer registers act as the data conduits for each select address. Once set, the addresses can be saved in non-volatile memory if required.

- *Pointer Parameters P0.20~P0.35 are where to enter the addresses that you want to consolidate.*
- *Data Location Parameters P0.40~P0.55 are locations to push data into, or to pull data out of.*

The following table shows the relationship between the Transfer registers and Data registers:

SR55 Parameters Summary – Serial Communication Parameters – Block Transfer Parameter Map

Block Transfer Address Pointers							Block Transfer Data						
Address Description	Parameter	Range	Read/ Write	Modbus Address		Default Setting	Address Description	Parameter	Range	Read/ Write	Modbus Address		Default Setting
				Address	Hex						Address	Hex *	
Transfer 1	P0.20	0~65535	R/W	17600	44C0	OFF	Data 1	P0.40	0~ 4,294,967,295	R/W	17664	4500	OFF
Transfer 2	P0.21			17601	44C1	OFF	Data 2	P0.41			17666	4502	OFF
Transfer 3	P0.22			17602	44C2	OFF	Data 3	P0.42			17668	4504	OFF
Transfer 4	P0.23			17603	44C3	OFF	Data 4	P0.43			17670	4506	OFF
Transfer 5	P0.24			17604	44C4	OFF	Data 5	P0.44			17672	4508	OFF
Transfer 6	P0.25			17605	44C5	OFF	Data 6	P0.45			17674	450A	OFF
Transfer 7	P0.26			17606	44C6	OFF	Data 7	P0.46			17676	450C	OFF
Transfer 8	P0.27			17607	44C7	OFF	Data 8	P0.47			17678	450E	OFF
Transfer 9	P0.28			17608	44C8	OFF	Data 9	P0.48			17680	4510	OFF
Transfer 10	P0.29			17609	44C9	OFF	Data 10	P0.49			17682	4512	OFF
Transfer 11	P0.30			17610	44CA	OFF	Data 11	P0.50			17684	4514	OFF
Transfer 12	P0.31			17611	44CB	OFF	Data 12	P0.51			17686	4516	OFF
Transfer 13	P0.32			17612	44CC	OFF	Data 13	P0.52			17688	4518	OFF
Transfer 14	P0.33			17613	44CD	OFF	Data 14	P0.53			17690	451A	OFF
Transfer 15	P0.34			17614	44CE	OFF	Data 15	P0.54			17692	451C	OFF
Transfer 16	P0.35			17615	44CF	OFF	Data 16	P0.55			17694	451E	OFF

The address registers can take any data type that can fit into four (4) bytes, so any address that yields six (6) bytes of data (such as time) will be incomplete. For accessing data that is more than four (4) bytes, that register should be read from or written to directly, rather than by the Block Transfer method.

Block Transfer Example

The following table shows an example of different data sizes:

Block Transfer Example						
Transfer Address	Parameter	Data Address	Data Shown in 4 Bytes			
17600	P3.3 – Start Current Limit Level	17664	0x00	0x00	0xe8	0x6c
17601	P3.4 – Start Current Limit Time	17666	0x00	0x00	0x01	0x0e
17602	P3.1 – Start Pedestal	17668	0x00	0x00	0x0c	0xcd
17603	P6.0 – iERS (enable)	17670	0x00	0x00	0x00	0x00
17604	P6.2 – iERS Rate	17672	0x00	0x00	0x00	0x00
17605	P15.17 – Start Saving Level	17674	0x00	0x00	0x00	0x00

Parameter Details

This section describes the individual parameters and the functions that they perform.

SR55 parameters are defined as holding type registers.

Parameters Not Configurable Through Touchscreen Menu

These parameters are configurable only through network communications.

Parameters Associated With Digital Inputs

*P0.0 – **Start/Stop** (Digital Input Control Command Function)*

Hold. Reg. Type: Read/Write

Description:

Starts or Stops the SR55.

- To map to digital input, refer to P10.2, P10.4, P10.6.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Stops or Soft Stops the SR55.	• 0	• Off (0)
• On : Starts the SR55.	• 1	

Modbus Address: 17920 (4600 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: none

*P0.1 – **Freeze Ramp** (Digital Input Control Command Function)*

Hold. Reg. Type: Read/Write

Description:

If set to On, this parameter will hold the Start Ramp even if "Current I_{rms}" is less than the "Current Limit Level."

- To map to digital input, refer to P10.2, P10.4, P10.6.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The Soft Start Ramp is not held and the SR55 will start in the time set.	• 0	• Off (0)
• On : The Soft Start Ramp is held and the SR55 will take longer than the time set to start.	• 1	

Modbus Address: 18240 (4740 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: none

*P0.2 – **Reset** (Digital Input Control Command Function)*

Hold. Reg. Type: Read/Write

Description:

To reset pulse high and then low when resetting using communications.

- If using the touchscreen, the Start button will change to a Reset button during a fault condition.
- Clear the fault and press Reset.
- To map to digital input, refer to P10.2, P10.4, P10.6.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The final state required for a reset.	• 0	• Off (0)
• On : The initial state required for a reset.	• 1	

Modbus Address: 18368 (47C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: none

Parameter Details – Not Configurable Through Touchscreen – Associated With Digital Inputs (continued)

*P0.3 – **External Trip** (Digital Input Control Command Function)*

Hold. Reg. Type: Read/Write

Description:

Control command for Digital Input: External Trip.

- Ensure start signal is low before reset.
- To map to digital input, refer to P10.2, P10.4, P10.6.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will not trip.	• 0	• Off (0)
• On : If "External Trip" is enabled, the SR55 trips.	• 1	

Modbus Address: 18880 (49C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: none

Parameters Associated With Digital Outputs

*P0.4 – **Ready***

Hold. Reg. Type: Read Only

Description:

STATUS INDICATION : Ready

- To map to Digital Output, refer to P11.0, P11.2, P11.4, P11.6.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 has not powered up successfully, or failed to reset from a trip.	• 0	• Off (0)
• On : Indicates that the SR55 is healthy and ready for a start. Remains on when Running.	• 1	

Modbus Address: 37184 (9140 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: none

*P0.5 – **Enabled***

Hold. Reg. Type: Read Only

Description:

STATUS INDICATION : Enabled

- To map to Digital Output, refer to P11.0, P11.2, P11.4, P11.6.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 has not powered up successfully, or failed to reset from a trip.	• 0	• Off (0)
• On : Indicates that the SR55 is enabled and ready for a start. Remains on when Running.	• 1	

Modbus Address: 37248 (9180 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: none

PARAMETER DETAILS – NOT CONFIGURABLE THROUGH TOUCHSCREEN – ASSOCIATED WITH DIGITAL OUTPUTS (CONTINUED)

*P0.6 – **ERROR***

HOLD. REG. TYPE: Read Only

DESCRIPTION:

STATUS INDICATION : Error. The fault must be cleared before a reset.

- To map to Digital Output, refer to P11.0, P11.2, P11.4, P11.6.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The SR55 is fault free.	• 0	• Off (0)
• On : Indicates that SR55 has detected a fault and has shut down.	• 1	

MODBUS ADDRESS: 37312 (91C0 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: none

*P0.7 – **RUNNING***

HOLD. REG. TYPE: Read Only

DESCRIPTION:

STATUS INDICATION : Running

- To map to Digital Output, refer to P11.0, P11.2, P11.4, P11.6.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The SR55 has detected a fault and tripped, or has been stopped.	• 0	• Off (0)
• On : Indicates that the motor is running and is being actively controlled by the SR55.	• 1	

MODBUS ADDRESS: 37632 (9300 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: none

*P0.8 – **END OF START***

HOLD. REG. TYPE: Read Only

DESCRIPTION:

STATUS INDICATION : End Of Start

- To map to Digital Output, refer to P11.0, P11.2, P11.4, P11.6.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The SR55 is disabled or ramping down.	• 0	• Off (0)
• On : Indicates that the Soft Start ramp has been completed.	• 1	

MODBUS ADDRESS: 37760 (9380 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: none

*P0.9 – **CURRENT LIMIT***

HOLD. REG. TYPE: Read Only

DESCRIPTION:

STATUS INDICATION : Current Limit

- To map to Digital Output, refer to P11.0, P11.2, P11.4, P11.6.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The ramp is not being held because " Current I_{rms} " is less than "Current Limit Level."	• 0	• Off (0)
• On : The ramp is being held because "Current I_{rms}" is greater or equal to "Current Limit Level."	• 1	

MODBUS ADDRESS: 37824 (93C0 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: none

PARAMETER DETAILS – NOT CONFIGURABLE THROUGH TOUCHSCREEN – ASSOCIATED WITH DIGITAL OUTPUTS (CONTINUED)

*P0.10 – **iERS ACTIVE***

HOLD. REG. TYPE:
Read Only

DESCRIPTION:
STATUS INDICATION : iERS Active
- To map to Digital Output, refer to P11.0, P11.2, P11.4, P11.6.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The iERS saving mode has been disabled either internally or via "iERS."	• 0	• Off (0)
• On : Indicates that the SR55 is operating in the iERS energy saving Mode.	• 1	

MODBUS ADDRESS:
38080 (94C0 hex)

MODBUS FORMAT:
16-bit unsigned

TOUCHSCREEN MENU PATH:
none

P0.12 – I/O STATUS REGISTER

HOLD. REG. TYPE:
Read Only

DESCRIPTION:
Displays the current status of the hardware inputs and outputs.

b0 (Input D1-1I)	b1 (Input D1-2I)	b2 (input D2-1I)	b3 (undefined)
b4 (Output 12)	b5 (Output 24)	b6 (Output 34)	b7 (Output 44)

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• 0 to 255	• 0	• OFF (0)
	• 1	

MODBUS ADDRESS:
62016 (F240 hex)

MODBUS FORMAT:
16-bit unsigned

TOUCHSCREEN MENU PATH:
none

Parameters Associated With Block Transfers

P0.20~P0.35 – Block Transfer Address Pointers

Hold. Reg. Type: Read/Write

Description:

Address pointers for data block transfer.

- For details, please refer to "Block Transfer Parameters" on page 3–24.

Range:
- 0~65535

Modbus Decimal Value:
- 65535

Default (decimal):
- Off (0)

Modbus Addresses:

17600 (44C0 hex)
17601 (44C1 hex)
17602 (44C2 hex)
17603 (44C3 hex)
17604 (44C4 hex)
17605 (44C5 hex)
17606 (44C6 hex)
17607 (44C7 hex)
17608 (44C8 hex)
17609 (44C9 hex)
17610 (44CA hex)
17611 (44CB hex)
17612 (44CC hex)
17613 (44CD hex)
17614 (44CE hex)
17615 (44CF hex)

Modbus Format:
16-bit unsigned

Touchscreen Menu Path:
none

P0.40~P0.55 – Block Transfer Data Locations

Hold. Reg. Type: Read/Write

Description:

Data locations for data block transfer.

- For details, please refer to "Block Transfer Parameters" on page 3–24.

Range:
- 0~4,294,967,295

Modbus Decimal Value:
- 4,294,967,295

Default (decimal):
- Off (0)

Modbus Addresses:

P0.40	17664/17665 (4500/4501 hex)
P0.41	17666/17667 (4502/4503 hex)
P0.42	17668/17669 (4504/4505 hex)
P0.43	17670/17671 (4506/4507 hex)
P0.44	17672/17673 (4508/4509 hex)
P0.45	17674/17675 (450A/450B hex)
P0.46	17676/17677 (450C/450D hex)
P0.47	17678/17679 (450E/450F hex)
P0.48	17680/17681 (4510/4511 hex)
P0.49	17682/17683 (4512/4513 hex)
P0.50	17684/17685 (4514/4515 hex)
P0.51	17686/17687 (4516/4517 hex)
P0.52	17688/17689 (4518/4519 hex)
P0.53	17690/17691 (451A/451B hex)
P0.54	17692/17693 (451C/451D hex)
P0.55	17694/17695 (451E/451F hex)

Modbus Format:
32-bit unsigned

Touchscreen Menu Path:
none

Parameter Details (continued)

Parameters in Sequence and Grouped by Touchscreen Navigation

SR55 parameters are defined as holding type registers.

"Auto Setup" Menu of Parameters

P0.11 – Application

Holding Register Type: Read/Write

Description:

- The SR55 has numerous built-in preset applications. Select the application best suited to your load. The selected application will automatically change several parameters and functions. Depending on the application loaded, the "Trip Class" may also change.
- Refer to the previous "Auto Setup Parameter Settings" table for more details (page 3–4).

Range:	Modbus Decimal Value:	Default (decimal):
See the previous "Auto Setup Parameter Settings" table (page 3–4).	n/a	Default (0)

Modbus Address:	Modbus Format:
19200 (4B00 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Auto Setup → Application

P5.1 – Trip Class

Holding Register Type: Read/Write

Description:

- The trip class is a numeric value that correlates the trip time with overload level. Select Trip class according to application requirements.
- The trip time depends on the selected Trip Class, the duration of the overload and the level of the overcurrent. Refer to the Motor Overload 'cold' trip curves given in the Quick-Start Guide.
- When "Class 20" or "Class30" are selected, the SR55 current rating will be reduced to a lower value.

Range:	Modbus Decimal Value:	Default (decimal):
• 10 • 20 • 30	• 10 • 20 • 30	• 10 (10)

Modbus Address:	Modbus Format:
25664 (6440 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Auto Setup → Application → Trip Class
(also Home → Advanced → Motor Protection → Trip Class)
(also automatically set in "Auto Setup" mode, depending on the application selected)

P5.0 – Motor Current

Hold. Reg. Type: Read/Write

Description:

- This should be set to the Full Load Current shown on the motor plate.
- The overload works with multiples of the set "Motor Current" (also referred to as Motor FLA).

Range:	Modbus Decimal Value:	Default:
10% to 100% of SR55 rated current (displayed in amps)	linear scale: 1 = 1mA	100%

Modbus Address:	Modbus Format:
25728/2529 (6480/6481 hex)	32-bit unsigned

Touchscreen Menu Path:
Home → Auto Setup → Motor Current
(also Home → Advanced → Motor Protection → Motor Current)

Parameter Details – "Auto Setup" Menu of Parameters (continued)

P7.0 – ***Control Method*** — *Holding Register Type:* Read/Write

Description:

- Local Touch Screen : Control using the buttons on the keypad.
- User Programmable : Control using the terminals, function defined in "I/O" menu.
- Two Wire Control : Control using terminals; functions fixed as shown on screen.
  D1-1I = High: Reset & Start / Low: Stop
- Three Wire Control : Control using terminals; functions fixed as shown on screen.
  D1-1I = High Start
  D2-1I = Low Stop
  D2-1I = High Reset
- Modbus Network : Control via remote Modbus network or remote touchscreen.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Local Touch Screen	• 0	• Local (0)
• User Programmable	• 1	
• Two Wire Control	• 2	
• Three Wire Control	• 3	
• Modbus Network	• 4	

Modbus Address: 59392 (E800 hex) — *Modbus Format:* 16-bit unsigned

Touchscreen Menu Path:
Home → Auto Setup → Control Method
(also Home → Advanced → Control Method) (also Home → I/O → Digital Inputs → Control Method)

P10.0 – ***Digital Input Voltage*** — *Hold. Reg. Type:* Read/Write

Description:
The digital inputs D1-1I, D1-2I, D2-1I are designed to work with a range of control supplies.

- It is important to ensure the "Digital Input Voltage" corresponds to the voltage applied to the input. ***Failure to do so may result in damage.***

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• 230VAC : 'Active high level' Input voltage must be in the range 195.5V–253V.	• 0	• 230VAC (0)
• 110VAC : 'Active high level' Input voltage must be in the range 93.5V–121V.	• 1	
• 24VDC : 'Active high level' input voltage must be in the range 20.4V–26.4V.	• 2	

Modbus Address: 10880 (2A80 hex) — *Modbus Format:* 16-bit unsigned

Touchscreen Menu Path:
Home → Auto Setup → Digital Input Voltage
(also Home → I/O → Digital Inputs → Digital Input Voltage)

"ADVANCED" MENU OF PARAMETERS

*P1.0 – **SAVE PARAMETERS***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Saves all Read/Write parameters to non-volatile memory.
Note: This does not save the parameters to an external USB drive.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• No : Parameters remain unchanged.	• 0	• No (0)
• Yes : Parameters are written.	• 1	

MODBUS ADDRESS:

MODBUS FORMAT:

TOUCHSCREEN MENU PATH:

ADVANCED "AUTOMATIC SETTINGS" PARAMETERS

*P2.0 – **AUTOMATIC PEDESTAL***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Automatically controls the starting torque by adjusting the start voltage.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The initial torque is defined by the "Start Pedestal."	• 0	• Off (0)
• On : The initial torque is increased until the motor starts to rotate at a moderate speed.	• 1	

MODBUS ADDRESS:
19840 (4D80 hex)

MODBUS FORMAT:
16-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Advanced → Automatic Settings → Automatic Pedestal

*P2.1 – **AUTOMATIC RAMP***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Automatically controls the torque applied to the motor during the soft start by automatically adjusting "Start Time" and "Current Limit."

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The ramp time depends on the "Start Time" and "Current Limit."	• 0	• Off (0)
• On : The torque is adjusted to suit the load.	• 1	

MODBUS ADDRESS:
20352 (4F80 hex)

MODBUS FORMAT:
16-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Advanced → Automatic Settings → Automatic Ramp

*P2.2 – **AUTOMATIC END START (1)***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Automatically controls the time taken for the motor to start.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The ramp time depends on the "Start Time" and "Current Limit."	• 0	• Off (0)
• On : The ramp time is shortened if the motor is at speed before the end of the "Start Time."	• 1	

MODBUS ADDRESS:
19968 (4E00 hex)

MODBUS FORMAT:
16-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Advanced → Automatic Settings → Automatic End Start (1)

Parameter Details – "Advanced" Menu of Parameters (continued)

*P2.3 – **Automatic Stop***

Hold. Reg. Type: Read/Write

Description:

Automatically controls the soft stop to suit the application.
This feature is particularly useful with pumping applications

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The deceleration to the point where the soft stop becomes useful will be slower.	• 0	• Off (0)
• On : If the motor is lightly loaded it decelerates rapidly to the point where the soft stop becomes useful.	• 1	

Modbus Address: 20160 (4EC0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Automatic Stop

*P2.4 – **Automatic Stop Profile***

Type: Read/Write

Description:

Adjusts the response of the "Automatic Stop."

- Increase if the motor speed doesn't drop quickly enough.
- When the value is set to zero, the "Automatic Stop" is effectively disabled.

Range:	*Modbus Decimal Value:*	*Default:*
0% – 100%	linear scale (1 = 0.006104 %) 0% – 100% = (0 – 16384) x% / 0.006104% = Modbus dec. value EX: Modbus value of 2900 = 17.7016%	50%

Modbus Address: 20608 (5080 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Automatic Stop Profile

*P2.5 – **Automatic End Stop***

Hold. Reg. Type: Read/Write

Description:

Automatically controls the "Stop Time."

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The ramp time depends on the "Stop Time" and "Current Limit."	• 0	• Off (0)
• On : The ramp time is shortened if the motor reaches a very low speed before the end of the "Stop Time."	• 1	

Modbus Address: 20416 (4FC0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Automatic End Stop

*P2.6 – **Automatic Impact Load***

Hold. Reg. Type: Read/Write

Description:

Automatically controls the maximum iERS saving level.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The saving potential may be reduced on applications with heavy load cycles , such as injection molding machines.	• 0	• Off (0)
• On : The maximum iERS saving level ("BackStop") is reset to maximum during each load cycle.	• 1	

Modbus Address: 20480 (5000 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Automatic Impact Load

Parameter Details – "Advanced" Menu of Parameters (continued)

*P2.7 – **Auto Smooth Stop***

Hold. Reg. Type: Read/Write

Description:

Automatically controls the soft stop to eliminate oscillations that can occur towards the end of the ramp.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The soft stop is not adjusted, and torque fluctuations may cause instability. This can often occur in pumping applications.	• 0	• Off (0)
• On : The soft stop is adjusted when oscillations are detected. Refer to "Auto smoothing Level."	• 1	

Modbus Address: 20224 (4F00 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Auto Smooth Stop

*P2.8 – **Auto Smoothing Level***

Type: Read/Write

Description:

Adjusts the response of the "Automatic smoothing."

- Increase to provide a greater smoothing effect if there are torque fluctuations that occur during the soft stop.
- When set to zero, the smoothing is effectively disabled.

Range:	*Modbus Decimal Value:*	*Default:*
10% – 100%	linear scale (1 = 0.006104 %) 10% – 100% = (1638 – 16384) x% / 0.006104% = Modbus dec. value EX: Modbus value of 2900 = 17.7016%	50%

Modbus Address: 20672 (50C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Auto Smoothing Level

*P2.9 – **Automatic End Start (2)***

Hold. Reg. Type: Read/Write

Description:

Automatically controls the time taken for the motor to start.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The ramp time depends on the "Start Time" and "Current Limit."	• 0	• Off (0)
• On : The ramp time is shortened if the motor current falls below the current limit level before the end of the "Start Time."	• 1	

Modbus Address: 19904 (4DC0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Automatic End Start (2)

Parameter Details – "Advanced" Menu of Parameters (continued)

P2.10 – ***Automatic End Start (3)***

Hold. Reg. Type: Read/Write

Description:

Automatically controls the time taken for the motor to start.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The ramp time depends on the "Start Time" and "Current Limit."	• 0	• Off (0)
• On : The ramp time is shortened if torque fluctuations occur before the end of the "Start Time."	• 1	

Modbus Address: 20032 (4E40 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Automatic End Start (3)

P2.11 – ***Rate End Start (3)***

Type: Read/Write

Description:

Adjusts the response of the "Automatic End Start(3)."

- Increase to provide a greater smoothing effect if torque fluctuations occur during the soft start.
- When set to zero, the smoothing is effectively disabled.

Range:	*Modbus Decimal Value:*	*Default:*
0% – 100%	linear scale (1 = 0.006104 %) 0% – 100% = (0 – 16384) x% / 0.006104% = Modbus dec. value EX: Modbus value of 2900 = 17.7016%	50%

Modbus Address: 768 (300 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Automatic Settings → Rate End Start (3)

Advanced "Start Settings" Parameters

P3.0 – ***Start Time***

Type: Read/Write

Description:

Time taken to soft start from the "Start Pedestal" to the end of the start.

- Normally set between 5 and 30 seconds.
- Actual time to get to full voltage depends on the "Start Current Limit Level."
- If set too long the motor can be at speed before the end of the time set; refer to "Automatic End Start."

Range:	*Modbus Decimal Value:*	*Default:*
1s – 300s	Linear Scaling (1 = 1s)	10s

Modbus Address: 7104 (1BC0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Advanced - Start Settings - Start Time

Parameter Details – "Advanced" Menu of Parameters (continued)

*P3.1 – **Start Pedestal***

Hold. Reg. Type: Read/Write

Description:

- Percentage of the supply voltage applied to motor at the beginning of the soft start.
- Increase to provide more torque If the load fails to break away.
- Decrease if the motor accelerates too quickly.

Range:	*Modbus Decimal Value:*	*Default:*
10% – 100%	linear scale (1 = 0.006104 %) 10% – 100% = (1638 – 16384) x% / 0.006104% = Modbus dec. value EX: Modbus value of 2900 = 17.7016%	20%

Modbus Address:	*Modbus Format:*
704 (2C0 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Start Settings → Start Pedestal

*P3.2 – **Start Current Limit Trip***

Hold. Reg. Type: Read/Write

Description:
Selects between trip or continue if the current limit has been active for too long.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The start will continue regardless of the motor current level.	• 0	
• On : The SR55 will trip. This trip is constrained by the Start Current Limit Level and the Start Current Limit Time.	• 1	• On (1)

Modbus Address:	*Modbus Format:*
53790 (D21E hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Start Settings → Start Current Limit Trip
(also Home → Advanced → Trip Settings → Start Current Limit Trip)

*P3.3 – **Start Current Limit Level***

Holding Register Type: Read/Write

Description:
The current in Amps which the soft start ramp is not allowed to go above.

- Normally set to 350% of motor FLA.
- Increase if motor fails to accelerate at required rate.
- The "Current Limit Level" will effect actual time to start. If set too low the motor may not accelerate to full speed.

Range:	*Modbus Decimal Value:*	*Default:*
100% motor FLA – 450% SR55 rated A	Linear Scale (1 = 1mA)	350% motor FLA

Modbus Address:	*Modbus Format:*
26880 (6900 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Start Settings → Start Current Limit → Start Current Limit Level

*P3.4 – **Start Current Limit Time***

Holding Register Type: Read/Write

Description:
The maximum time allowed for the current limit.

- If the current limit is still active at the end of this period the SR55 will either 'trip' or 'continue.'

Range:	*Modbus Decimal Value:*	*Default:*
• 1s – 300s	Linear Scale (1 = 1s)	30s

Modbus Address:	*Modbus Format:*
26944 (6940 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Start Settings → Start Current Limit → Start Current Limit Time

Parameter Details – "Advanced" Menu of Parameters (continued)

P3.5 – ***Kick Start***

Hold. Reg. Type: Read/Write

Description:

Applies a short duration torque pulse to dislodge 'sticky' loads.

Range:

- Off : The initial starting torque is defined by the "Start Pedestal."
- On : The torque pulse is applied at start-up, when complete the torque drops to the "Start Pedestal."

Modbus Decimal Value:

- 0
- 1

Default (decimal):

- Off (0)

Modbus Address: 320 (140 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Start Settings → Kick Start
(also Home → Advanced → Start Settings → Kick Start → Kick Start)

P3.6 – ***Kick Start Time***

Type: Read/Write

Description:

Time that the torque pulse is applied to load.

- Increase to provide more torque If the load fails to break away.
- Decrease if the motor accelerates too quickly.

Range: 10ms – 2000ms

Modbus Decimal Value: linear scale (1 = 1 ms)

Default: 100ms

Modbus Address: 7040 (1B80 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Start Settings → Kick Start Time
(also Home → Advanced → Start Settings → Kick Start → Kick Start Time)

P3.7 – ***Kick Start Pedestal***

Type: Read/Write

Description:

Percentage of the supply voltage applied to the motor during the 'kick' period.

- Increase to provide more torque If the load fails to break away.
- Decrease if the motor accelerates too quickly.

Range: 30% – 80%

Modbus Decimal Value: linear scale (1 = 0.006104 %)
30% – 80% = (4915 – 13106)
x% / 0.006104% = Modbus dec. value
EX: Modbus value of 10500 = 64.09%

Default: 75%

Modbus Address: 640 (280 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Start Settings → Kick Start → Kick Start Pedestal

P3.8 – ***Contactor Delay***

Type: Read/Write

Description:

Time allowed for external line-side contactors to close before soft start begins.

- Increase if contactors are driven by buffer relays or motor trips on phase loss when start signal applied.
- Decrease if response to start signal needs to be improved.

Range: 20ms – 800ms

Modbus Decimal Value: linear scale (1 = 1 ms)

Default: 160ms

Modbus Address: 8320 (2080 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Start Settings → Contactor Delay

Parameter Details – "Advanced" Menu of Parameters (continued)

Advanced "Stop Settings" Parameters

*P4.0 – **Stop Time***

Type: Read/Write

Description:

Normally set between 15 and 60 seconds.

- Actual time to get to 'Stop Pedestal' depends on the ""Stop Current Limit Level."
- If set too long motor may reach zero speed before the end of the time set; refer to "Automatic End Stop."

Range:	*Modbus Decimal Value:*	*Default:*
0s – 300s	linear scale (1 = 1 s)	0s

Modbus Address: 7296 (1C80 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Stop Settings → Stop Time

*P4.1 – **Stop Pedestal***

Type: Read/Write

Description:

Percentage of the supply voltage applied to the motor at the end of the soft stop.

- Increase if the motor crawls at the end of the soft stop.
- Decrease if greater soft-stop effect is required at end of ramp.

Range:	*Modbus Decimal Value:*	*Default:*
10% – 40%	linear scale (1 = 0.006104 %) 10% – 40% = (1638 – 6553) x% / 0.006104% = Modbus dec. value EX: Modbus value of 5250 = 32.05%	10%

Modbus Address: 896 (380 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Stop Settings → Stop Pedestal

*P4.2 – **Stop Current Limit Trip***

Hold. Reg. Type: Read/Write

Description:

Selects between 'trip' or 'continue' if the current limit has been active for too long.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
Off : The stop will continue regardless of the motor current level.	• 0	• Off (0)
On : The SR55 will trip. This trip is constrained by the Stop Current Limit Level and the Stop Current Limit Time. Motor will coast to stop when tripped.	• 1	

Modbus Address: 53791 (D21F hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Stop Settings → Stop Current Limit → Stop Current Limit Trip
(also Home → Advanced → Trip Settings → Stop Current Limit Trip)

Parameter Details – "Advanced" Menu of Parameters (continued)

P4.3 – ***Stop Current Limit Level***

Type: Read/Write

Description:

The current in amps at which the soft stop ramp is not allowed to go above.

- Normally set to 350% motor FLA. Increase if motor decelerates too rapidly. Increasing this setting allows the motor to take longer to decelerate.
- The current limit level will effect actual time to stop the motor.

Range:	*Modbus Decimal Value:*	*Default:*
100% I-motor – 450% I-SR55	linear scale (1 = 1mA)	350% I-motor

Modbus Address:	*Modbus Format:*
28800 (7080 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Stop Settings → Stop Current Limit → Stop Current Limit Level

P4.4 – ***Stop Current Limit Time***

Type: Read/Write

Description:

The maximum time allowed for the current limit.

- If the current limit is still active at the end of this period the SR55 will either 'trip' or 'continue.'

Range:	*Modbus Decimal Value:*	*Default:*
1s – 300s	linear scale (1 = 1 s)	10s

Modbus Address:	*Modbus Format:*
28864 (70C0 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Stop Settings → Stop Current Limit → Stop Current Limit Time

Advanced "Motor Protection" Parameters

P5.0 – ***Motor Current***

Hold. Reg. Type: Read/Write

Description:

This should be set to the Full Load Current shown on the motor plate.

- The overload works with multiples of the set "Motor Current" (i-motor).
- Also referred to as Motor FLA.

Range:	*Modbus Decimal Value:*	*Default:*
10% I-rated – 100% I-rated	linear scale (1 = 1mA)	100% I-rated

Modbus Address:	*Modbus Format:*
25728/25729 (6480/6481 hex)	32-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Motor Protection → Motor Current
(also Home → Auto Setup → Motor Current)

PARAMETER DETAILS – "ADVANCED" MENU OF PARAMETERS (CONTINUED)

P5.1 – ***TRIP CLASS***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

- The trip class is a numeric value that correlates the trip time with overload level. Select "Trip Class" according to application requirements.
- The trip time depends on the selected Trip Class, the duration of the overload and the level of the overcurrent. Refer to the Motor Overload 'cold' trip curves given in the Quick-Start Guide.
- When "Class 20" or "Class30" are selected, the SR55 current rating will be reduced to a lower value.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• 10	• 10	• 10 (10)
• 20	• 20	
• 30	• 30	

MODBUS ADDRESS: 25664 (6440 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: Home → Advanced → Motor Protection → Trip Class

P5.2 – ***LOW CURRENT TRIP***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

This can be used to detect if the motor is running lightly loaded.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The SR55 will continue to operate regardless of motor current.	• 0	• Off (0)
• On : The SR55 will trip when lower than expected current draw occurs. This trip is constrained by the Low Current Trip Level and the Low Current Trip Time. This feature is not active during soft start and soft stop.	• 1	

MODBUS ADDRESS: 53787 (D21B hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: Home → Advanced → Motor Protection → Low Current Settings → Low Current Trip (also Home → Advanced → Trip Settings → Low Current Trip)

P5.3 – ***LOW CURRENT TRIP LEVEL***

TYPE: Read/Write

DESCRIPTION:

The current in Amps that will cause a trip.

- A trip will occur if the motor current is less than the "Trip Level" for the "Trip Time."

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
25% I-motor – 100% I-motor	linear scale (1 = 1mA)	25% I-motor

MODBUS ADDRESS: 26304 (66C0 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: Home → Advanced → Motor Protection → Low Current Settings → Low Current Trip Level

P5.4 – ***LOW CURRENT TRIP TIME***

TYPE: Read/Write

DESCRIPTION:

The trip time for the Low current trip.

- A trip will occur if the motor current is less than the "Trip Level" for the "Trip Time."

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
100ms – 9000ms	linear scale (1 = 1 ms)	100ms

MODBUS ADDRESS: 26368 (6700 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: Home → Advanced → Motor Protection → Low Current Settings → Low Current Trip Time

PARAMETER DETAILS – "ADVANCED" MENU OF PARAMETERS (CONTINUED)

*P5.5 – **SHEARPIN TRIP***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

The shearpin is an electronic equivalent of a mechanical shearpin.

- This feature is not active during soft start and soft stop.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The SR55 will continue to operate regardless of motor current level.	• 0	
• On : The SR55 will trip. This trip is constrained by the Shearpin Trip Current and the Shearpin Trip Time.	• 1	• On (1)

MODBUS ADDRESS: 53793 (D221 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Advanced → Motor Protection → Shearpin Settings → Shearpin Trip
(also Home → Advanced → Trip Settings → Shearpin Trip)

*P5.6 – **SHEARPIN TRIP CURRENT***

TYPE: Read/Write

DESCRIPTION:

The current in Amps that will cause a "Shearpin Trip."

- A trip will occur if the motor current is greater than the "Trip Level" for the "Trip Time."

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
100% I-motor – 450% I-SR55	linear scale (1 = 1mA)	450% I-SR55

MODBUS ADDRESS: 27584 (6BC0 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Advanced → Motor Protection → Shearpin Settings → Shearpin Trip Current

*P5.7 – **SHEARPIN TRIP TIME***

TYPE: Read/Write

DESCRIPTION:

The trip time for the Shearpin trip.

- A trip will occur if the motor current is greater than the "Trip Level" for the "Trip Time."

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
100ms – 9000ms	linear scale (1 = 1 ms)	100ms

MODBUS ADDRESS: 27648 (6C00 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Advanced → Motor Protection → Shearpin Settings → Shearpin Trip Time

*P5.8 – **OVERLOAD TRIP***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

The overload is an electronic equivalent to a thermal overload.
(See Overload parameter address 33408 for more information about Overload.)

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The SR55 will continue to operate regardless of motor current level.	• 0	
• On : The SR55 will trip when the "Overload" capacity exceeds the motor current level chosen in Overload Level and Trip Class parameters.	• 1	• On (1)

MODBUS ADDRESS: 53792 (D220 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Advanced → Motor Protection → Overload Settings → Overload Trip
(also Home → Advanced → Trip Settings → Overload Trip)

Parameter Details – "Advanced" Menu of Parameters (continued)

*P5.9 – **Overload Level***

Type: Read/Write

Description:

Determines the level in Amps at which the overload will start.

- Normally set to 115% of the set motor current (i-motor).
- Reduce to speed up trip response.

Range:	*Modbus Decimal Value:*	*Default:*
50% I-motor – 125% I-motor	linear scale (1 = 1mA)	115% I-motor

Modbus Address:	*Modbus Format:*
28224 (6E40 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Motor Protection → Overload Settings → Overload Level

Advanced "iERS" Parameters

*P6.0 – **iERS***

Hold. Reg. Type: Read/Write

Description:

Enables and disables the intelligent Energy Recovery System feature (iERS).

Range:	*Modbus Decimal Value:*	*Default (decimal):*
Off : The feature is disabled and the motor operates at full voltage.	• 0	
On : The voltage to the motor will be regulated to ensure optimum efficiency.	• 1	• On (1) *

Modbus Address:	*Modbus Format:*
21120 (5280 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → iERS → iERS

* *NOTE: iERS (P6.0) default setting is "OFF (0)" beginning in firmware version 59.35.*

*P6.1 – **Dwell Time***

Type: Read/Write

Description:

The time from the end of the start to the point where the iERS saving mode becomes active.

- Normally set to 5 seconds to ensure that the motor is at full speed before the iERS saving becomes active.
- Increase to allow time for the motor to stabilize.

Range:	*Modbus Decimal Value:*	*Default:*
1s – 300s	linear scale (1 = 1 s)	5s

Modbus Address:	*Modbus Format:*
7360 (1CC0 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → iERS → Dwell Time

Parameter Details – "Advanced" Menu of Parameters (continued)

*P6.2 – **iERS Rate***

Type: Read/Write

Description:

Determines the rate at which the load is regulated during the energy saving mode.

- Increase if the applications shows signs of instability.
- Reduce to increase the speed of response.

Range: 0% – 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %)
0% – 100% = (0 – 16384)
x% / 0.006104% = Modbus dec. value
EX: Modbus value of 5250 = 32.05%

Default: 25%

Modbus Address: 21184 (52C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → iERS → iERS Rate

*P6.3 – **iERS Level***

Type: Read/Write

Description:

Determines the maximum energy saving potential.

- Reduce if the application shows signs of instability.
- The amount of energy that can be saved may fall as the "iERS Level" is reduced.

Range: 0% – 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %)

Default: 100%

Modbus Address: 21376 (5380 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → iERS → iERS Level

*P6.4 – **Fixed Voltage (Level)***

Type: Read/Write

Description:

User settable voltage level for power calculations.

- If required, can be used to improve accuracy of power calculations.
- This voltage level will be displayed on the "Monitor" screen as Vrms (Approx) if Fixed Voltage is turned on.

Range: 100V – 500V

Modbus Decimal Value: linear scale (1 = 1 V)

Default: 100V

Modbus Address: 35200 (8980 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → iERS → Fixed Voltage (Level)

Parameter Details – "Advanced" Menu of Parameters (continued)

P6.5 – ***Fixed Voltage*** — *Hold. Reg. Type:* Read/Write

Description:

Selects the source for the voltage value used in the power calculations.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : kW, kVAR, and kVA are calculated using the internally measured voltage. This internally measured voltage is not an accurate method of obtaining a voltage reading, and can have an error up to 35% if the starter and motor are unloaded or lightly loaded.	• 0	• Off (0)
• On : kW, kVAR, and kVA are calculated using the "Fixed Voltage." This voltage level will be displayed on the "Monitor" screen as Vrms (Approx).	• 1	

Modbus Address: 35264 (89C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → iERS → Fixed Voltage

Advanced "Control Method" Parameter

P7.0 – ***Control Method*** — *Hold. Reg. Type:* Read/Write

Description:

- Local Touch Screen : Control using the button on the keypad. (Digital Inputs are disabled; Digital Outputs still function as configured.)
- User Programmable : Control using the terminals; function defined in "I/O" menu.
- Two Wire Control : Control using terminals; functions fixed as shown on screen.
- Three Wire Control : Control using terminals; functions fixed as shown on screen.
- Modbus Network : Control via remote Modbus network, remote touchscreen, or Modbus TCP / EtherNet/IP. (Digital Inputs are disabled; Digital Outputs still function as configured.)

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Local Touch Screen	• 0	• Local (0)
• User Programmable	• 1	
• Two Wire Control	• 2	
• Three Wire Control	• 3	
• Modbus Network	• 4	

Modbus Address: 59392 (E800 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Control Method
(also Home → Auto Setup → Control Method) (also Home → I/O → Digital Inputs → Control Method)

Parameter Details – "Advanced" Menu of Parameters (continued)

Advanced "Trip Settings" Parameters

*P8.0 – **Trip Sensitivity***

Type: Read/Write

Description:

Adjusts the reaction time to fault trips.

- Increase "Trip Sensitivity" to slow the response to fault trips.
- Sometimes useful on sites were electrical noise is causing nuisance tripping.
- This is a global setting; increasing "Trip Sensitivity" will slow the response of all the trips. (0% = most sensitive trip setting)

Range: 0% – 100%

Modbus Decimal Value: linear scale (1 = 0.006104%)
0% – 100% = (0 – 16384)
x% / 0.006104% = Modbus dec. value
EX: Modbus value of 5250 = 32.05%

Default: 0%

Modbus Address: 44864 (AF40 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Trip Sensitivity

*P8.1 – **Cover Open Trip***

Hold. Reg. Type: Read/Write

Description:

For safety purposes, the SR55 has the ability to trip if the front cover is open.

Range:

- Off : The SR55 will continue to operate with the cover open.
- On : The SR55 will trip if the front cover is open. This trip is active at all times.

Modbus Decimal Value:

- 0
- 1

Default (decimal):

- Off (0)

Modbus Address: 53803 (D22B hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Cover Open Trip

*P8.2 – **Shearpin Trip***

Hold. Reg. Type: Read/Write

Description:

The shearpin is an electronic equivalent of a mechanical shearpin.

Range:

- Off : The SR55 will trip. This trip is constrained by the Shearpin Trip Current and the Shearpin Trip Time.
- On : The SR55 will trip. This feature is not active during soft start and soft stop.

Modbus Decimal Value:

- 0
- 1

Default (decimal):

- On (1)

Modbus Address: 53793 (D221 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Shearpin Trip
(also Home → Advanced → Motor Protection → Shearpin Settings → Shearpin Trip)

PARAMETER DETAILS – "ADVANCED" MENU OF PARAMETERS (CONTINUED)

*P8.3 – **OVERLOAD TRIP***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

The overload is an electronic equivalent to a thermal overload.
(See Overload parameter address 33408 for more information about Overload.)

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The SR55 will continue to operate regardless of motor current level.	• 0	
• On : The SR55 will trip when the "Overload" capacity exceeds the motor current level chosen in Overload Level and Trip Class parameters.	• 1	• On (1)

MODBUS ADDRESS: 53792 (D220 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Advanced → Trip Settings → Overload Trip
(also Home → Advanced → Motor Protection → Overload Settings → Overload Trip)

*P8.4 – **LOW CURRENT TRIP***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

This can be used to detect if the motor is running lightly loaded.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The SR55 will continue to operate regardless of motor current.	• 0	• Off (0)
• On : The SR55 will trip. This feature is not active during soft start and soft stop.	• 1	

MODBUS ADDRESS: 53787 (D21B hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Advanced → Trip Settings → Low Current Trip
(also Home → Advanced → Motor Protection → Low Current Settings → Low Current Trip)

*P8.5 – **START CURRENT LIMIT TRIP***

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Selects between trip or continue if the start current limit has been active for too long.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT (DECIMAL):*
• Off : The start will continue regardless of the motor current level.	• 0	
• On : The SR55 will trip. This trip is constrained by the Start Current Limit Level and the Start Current Limit Time.	• 1	• On (1)

MODBUS ADDRESS: 53790 (D21E hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Advanced → Trip Settings → Start Current Limit Trip
(Home → Advanced → Start Settings → Start Current Limit → Start Current Limit Trip)

Parameter Details – "Advanced" Menu of Parameters (continued)

*P8.6 – **Stop Current Limit Trip***

Hold. Reg. Type: Read/Write

Description:

Selects between trip or continue if the stop current limit has been active for too long.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The stop will continue regardless of the motor current level.	• 0	• Off (0)
• On : The SR55 will trip. This trip is constrained by the Stop Current Limit Level and the Stop Current Limit Time.	• 1	

Modbus Address: 53791 (D21F hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Trip Settings → Stop Current Limit Trip
(also Home → Advanced → Stop Settings → Stop Current Limit → Stop Current Limit Trip)

*P8.7 – **PTC Motor Thermistor Trip***

Hold. Reg. Type: Read/Write

Description:

A single PTC motor thermistor or set of PTC motor thermistors can be connected to the PTC terminals.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will continue to operate.	• 0	• Off (0)
• On : The SR55 will trip if the motor thermistor exceeds its response temperature, or the PTC input is open circuit (> 4kΩ).	• 1	

Modbus Address: 53794 (D222 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Trip Settings → PTC Motor Thermistor Trip
(also Home → I/O → PTC Motor Thermistor Trip)

*P8.8 – **L1-L2-L3 Trip***

Hold. Reg. Type: Read/Write

Description:

Determines if supply phase sequence is incorrect for motor rotation.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will continue to operate normally.	• 0	• Off (0)
• On : Trips if the phase sequence is L1, L2, L3.	• 1	

Modbus Address: 53808 (D230 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Trip Settings → L1-L2-L3 Trip

*P8.9 – **L1-L3-L2 Trip***

Hold. Reg. Type: Read/Write

Description:

Determines if supply phase sequence is incorrect for motor rotation.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will continue to operate normally.	• 0	• Off (0)
• On : Trips if the phase sequence is L1, L3, L2.	• 1	

Modbus Address: 53807 (D22F hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Trip Settings → L1-L3-L2 Trip

Parameter Details – "Advanced" Menu of Parameters (continued)

*P8.10 – **Remote Start Trip***

Hold. Reg. Type: Read/Write

Description:
For safety reasons the SR55 will trip during some operations if the "Start/Stop" signal is active.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will not trip and may start unexpectedly if the start signal is accidently left active.	• 0	
• On : Trips if the "Start/Stop" signal is active when the SR55 is first powered up or a reset is applied.	• 1	• On (1)

Modbus Address: 53804 (D22C hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Remote Start Trip

*P8.11 – **Current Sensor Trip***

Hold. Reg. Type: Read/Write

Description:
Detects if the internal current sensors have failed or reading a very low level.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Will continue to operate even if the sensor has failed. Measurements and overload protection may be effected.	• 0	• Off (0)
• On : The SR55 will trip if the internal current sensors fail, or the current measured falls to a very low level.	• 1	

Modbus Address: 53775 (D20F hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Current Sensor Trip

*P8.12 – **Fan Trip***

Hold. Reg. Type: Read/Write

Description:
Detects if the on-board cooling fans have failed.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Will continue to operate and is likely to trip on a thermal trip as the heatsink will not be sufficiently cooled.	• 0	
• On : The SR55 trips if the cooling fans fitted to the SR55 fail.	• 1	• On (1)

Modbus Address: 53782 (D216 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Fan Trip

*P8.13 – **Communications Trip***

Hold. Reg. Type: Read/Write

Description:
Detects if the communications bus has failed or become inactive. To keep the bus active there must be at least one Modbus read or write (any address) during the "Timeout ms" period (Modbus 15808).

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Communication trip disabled.	• 0	
• On : Communication trip enabled.	• 1	• On (1)

Modbus Address: 53796 (D224 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Communications Trip

PARAMETER DETAILS – "ADVANCED" MENU OF PARAMETERS (CONTINUED)

P8.14 – ***SHUT DOWN (1) ****

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

This features controls the soft stop to improve stability.

- Shut Down Trip 1 is an overlap trip. If firing patterns get overlapped at the beginning of stop ramp this trip will occur.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT (DECIMAL):
• Off : The motor will stop in the set time.	• 0	
• On : The stop time is truncated if the motor experiences severe torque fluctuations during the soft stop.	• 1	• On (1)

MODBUS ADDRESS: 53769 (D209 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: Home → Advanced → Trip Settings → Shut Down (1)

P8.15 – ***SHUT DOWN (2) ****

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

This features controls the soft stop to improve stability.

- Shut Down Trip 2 is an oscillation trip. If oscillations in the power factor are too great during a soft stop, then this trip will occur.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT (DECIMAL):
• Off : The motor will stop in the set time.	• 0	
• On : The stop time is truncated if the motor experiences severe torque fluctuations during the soft stop.	• 1	• On (1)

MODBUS ADDRESS: 53770 (D20A hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: Home → Advanced → Trip Settings → Shut Down (2)

** The Shut Down Trips are in operation during the soft stop ramp.*
At the end of the soft stop ramp, occasionally the motor can become unstable due to torque fluctuations.
If the torque fluctuations get too bad then the SR55 may trip, this could cause issues with the restart. With Shut Down Trips turned on, if the torque fluctuations are experienced the SR55 will automatically stop the soft stop ramp and let the motor coast to a full stop. This stops the SR55 tripping and allows for a restart without resetting a trip. This is normally only for a very small time due to torque fluctuations occurring at the end of a soft stop ramp. If a Shut Down occurs, then it is logged in the log file but will not affect the operation of the SR55. Both shut down trips have to do with rapid changes in power factor. Soft stop smoothing will keep shut down trips from happening.

P8.16 – THYRISTOR FIRING TRIP

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Detects if there is a fault with one or more of the internal thyristors or bypass relays.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT (DECIMAL):
• Off : The SR55 will attempt to start and run although the operation may be erratic. Operating in this mode for prolonged periods may result in SCR failure.	• 0	
• On : Trips if one or more of the thyristors / bypass relays has failed short circuit (typically 0.1Ω or less). Check by measuring the resistance between L1-T1, L2-T2, L3-T3. Never check resistance when power is applied. Using a multi-meter, measured resistance for a good thyristor may exceed 500kΩ. A shorted thyristor will measure 0.1Ω or lower; with the measured value being the resistance of the meter test leads.	• 1	• On (1)

MODBUS ADDRESS: 53774 (D20E hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH: Home → Advanced → Trip Settings → Thyristor Firing Trip

WARNING: **NEVER CHECK RESISTANCE WHEN POWER IS APPLIED.**

Parameter Details – "Advanced" Menu of Parameters (continued)

*P8.17 – **Motor Side Phase Loss***

Hold. Reg. Type: Read/Write

Description:
Detects if there is a disconnection between the SR55 output and the motor.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will attempt to start and run although the operation may be erratic. Operating in this mode for prolonged periods may result in SCR failure.	• 0	
• On : Trips if there is a disconnection between the output side of the SR55 and the motor.	• 1	• On (1)

Modbus Address: 53777 (D211 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Motor Side Phase Loss

*P8.18 – **Sensing Fault Trip***

Hold. Reg. Type: Read/Write

Description:
Detects if there is a fault with operation of one or more of the internal thyristors.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will attempt to start and run although the operation may be erratic. Operating in this mode for prolonged periods may result in SCR failure.	• 0	
• On : Trips if one or more of the Thyristors fails to turn on properly.	• 1	• On (1)

Modbus Address: 53781 (D215 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Sensing Fault Trip

*P8.19 – **Thermal Sensor Trip***

Hold. Reg. Type: Read/Write

Description:
Detects if the internal temperature sensors have failed.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will continue to operate even if the temperature sensor has failed. Operating in this mode for prolonged periods may result in SCR failure.	• 0	
• On : The SR55 will trip if the internal temperature sensors fail.	• 1	• On (1)

Modbus Address: 53768 (D208 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Thermal Sensor Trip

*P8.20 – **External Trip Enable***

Hold. Reg. Type: Read/Write

Description:
Turning this parameter on will allow an External Trip Command to trip the SR55. A trip can be forced using one of the digital inputs or using a Modbus command. The "Control Method" parameter must be set to "User Programmable" when using a digital input or "Modbus Network" when using Modbus in order to configure the SR55 for an external trip.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : External Trip is disabled.	• 0	
• On : Trips when the programmed input is active.	• 1	• On (1)

Modbus Address: 53795 (D223 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → External Trip

Parameter Details – "Advanced" Menu of Parameters (continued)

*P8.21 – **Main Board Trip***

Hold. Reg. Type: Read/Write

Description:
Detects if an unexpected event has occurred during the Main Board operation.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Main Board trip disabled.	• 0	
• On : Main Board trip enabled.	• 1	• On (1)

Modbus Address: 53800 (D228 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Main Board Trip

*P8.22 – **Keypad Trip***

Hold. Reg. Type: Read/Write

Description:
Detects if an unexpected event has occurred during the Touchscreen operation.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Keypad Trip disabled.	• 0	• OFF (0)
• On : Keypad Trip enabled.	• 1	

Modbus Address: 53798 (D226 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Keypad Trip

*P8.23– **Logging Trip***

Hold. Reg. Type: Read/Write

Description:
Detects if the logging to the internal SD card has failed to operate normally.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Logging trip disabled.	• 0	• OFF (0)
• On : Logging trip enabled.	• 1	

Modbus Address: 53799 (D227 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Logging Trip

*P8.24 – **Input Side Phase Loss***

Hold. Reg. Type: Read/Write

Description:
Detects if there is a disconnection between the SR55 input and supply when motor is running.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will attempt to run, although the operation may be erratic. Operating in this mode for prolonged periods may result in SCR failure.	• 0	
• On : Trips if there is a disconnection between the input side of the SR55 and the supply when the motor is running.	• 1	• On (1)

Modbus Address: 53762 (D202 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Advanced → Trip Settings → Input Side Phase Loss

Advanced "Firing Mode" Parameter

*P9.0 – **Firing Mode***

Hold. Reg. Type: Read/Write

Description:

Set to correspond with SR55 connection to the Motor. Refer to connection diagrams in the Quick Start Guide, or in the "Electrical Installation" Chapter 2 of this user manual.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• In-Line : The SR55 is connected in-line with a delta or star connected motor.	• 0	• In-Line (0)
• In-Delta : The SR55 is connected inside the delta of the motor. The iERS function is disabled. In-Delta must be selected if "Legacy Delta Mode" parameter is desired.	• 1	

Modbus Address: 128 (80 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → Advanced → Firing Mode

Advanced "Legacy Delta Mode" Parameter

*P9.1 – **Legacy Delta Mode***

Hold. Reg. Type: Read/Write

Description:

Allows the SR55 to be retro-fitted into "Delta" applications that previously used an SR44 in-delta configuration. (Changes phase rotation L1-L2-L3 to L1-L3-L2.)

For "Legacy Delta Mode" to be activated, "Firing Mode" must be set to "In-Delta".

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Operates normally. Refer to SR55 delta connection diagram in "Electrical Installation" Chapter 2 or the Quick Start Guide.	• 0	• Off (0)
• On : Operates in SR44 delta compatibility mode. (Changes phase rotation L1-L2-L3 to L1-L3-L2.)	• 1	

Modbus Address: 192 (C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → Advanced → Legacy Delta Mode

P9.2 – Main Contactor Control

Hold. Reg. Type: Read/Write

Description:

Used when the motor is required to start when the Main Contactor closes, and stop when it opens. An auxiliary contact from the main contactor is used as a Start/Stop signal. The 'Stop Time' must be set to zero.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : When the contactor opens and the stop signal is given at the same time, the unit may trip on "Phase Loss" (Default).	• 0	• OFF (0)
• On : When the contactor opens and the stop signal is given at the same, time the unit will not trip on "Phase Loss."	• 1	

Modbus Address: 14144 (3740 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → Advanced → Main Contactor Control

Parameter Details – "Advanced" Menu of Parameters (continued)

P9.3 – Hand-Auto Control — *Hold. Reg. Type:* Read/Write

Description:

A Hand-Auto selection switch can be connected to Digital Input D1-2I to change the 'Control Method.' This can be used to change the Start/Stop to 'Hand' if the Communications fails. Before turning on Hand-Auto Control, the user must ensure that the parameters for Input D1-2I are set for No Function Selected (P10.3 = 0) and High Input Sets Value (P10.4 = 1), which are the default settings for this input.

- D1-2I = 1 : Sets Control Method to "2 -Wire" (Hand).
- D1-2I = 0 : Sets Control Method to "Modbus Network" (Auto).
- Hand : Input D1-1I = High Start / Low Stop; Input D2-1I = High Reset
- Auto : ADDRESS 17920 = Start / Stop; ADDRESS 18368 = Reset

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : Control Method can be selected to any method needed per P7.0. Digital Input Functions can be changed.	• 0	• OFF (0)
• On : Control Method is fixed to "User Programable." Digital inputs are fixed to as shown in the description above.	• 1	

Modbus Address: 28160 (6E00 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → Advanced → Hand-Auto Control

Parameter Details (continued)

"I/O" Menu of Parameters

I/O "Digital Inputs" Parameters

P10.0 – Digital Input Voltage — Hold. Reg. Type: Read/Write

Description:

The digital inputs D1-1I, D1-2I, D2-1I are designed to work with a range of control supplies.

- It is important to ensure the "Digital Input Voltage" corresponds to the voltage applied to the input. ***Failure to do so may result in damage.***

Range:	Modbus Decimal Value:	Default (decimal):
• 230VAC : 'Active high level' Input voltage must be in the range 195.5V–253V.	• 0	• 230VAC (0)
• 110VAC : 'Active high level' Input voltage must be in the range 93.5V–121V.	• 1	
• 24VDC : 'Active high level ' input voltage must be in the range 20.4V–26.4V.	• 2	

Modbus Address: 10880 (2A80 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Inputs → Digital Input Voltage
(also Home → Auto Setup → Digital Input Voltage)

P7.0 – Control Method — Hold. Reg. Type: Read/Write

Description:

- Local Touch Screen : Control using the button on the keypad. (Digital Inputs are disabled. Digital Outputs still function as configured.)
- User Programmable : Control using the terminals; function defined in "I/O" menu.
- Two Wire Control : Control using terminals; functions fixed as shown on screen.
- Three Wire Control : Control using terminals; functions fixed as shown on screen.
- Modbus Network : Control via remote Modbus network, remote touchscreen, or Modbus TCP / EtherNet/IP. (Digital Inputs are disabled. Digital Outputs still function as configured.)

Range:	Modbus Decimal Value:	Default (decimal):
• Local Touch Screen	• 0	• Local (0)
• User Programmable	• 1	
• Two Wire Control	• 2	
• Three Wire Control	• 3	
• Modbus Network	• 4	

Modbus Address: 59392 (E800 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Inputs → Control Method
(also Home → Auto Setup → Control Method) (also Home → Advanced → Control Method)

P10.1 – Digital Input 1 (D1-1I): Select Function — Hold. Reg. Type: Read/Write

Description:

Allows the Digital Input to be mapped to different functions.

- The selected function will change in proportion with the input.
- Digital Inputs can only be user configured if "Control Method" is set to "User Programmable."
- All Digital Inputs are disabled if "Control Method" is set to "Local Touch Screen" or "Modbus Network."

Range: Refer to "Digital Input Function Settings" on page 3–56.

Modbus Decimal Value: Default (decimal): Start/Stop (280)

Modbus Address: 10944 (2AC0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Inputs → Digital Input 1 (D1-1I) → Select Function

Parameter Details – "I/O" Menu of Parameters (continued)

*P10.2 – **Digital Input 1 (D1-1I): High Input = 1 Sets Value***

Hold. Reg. Type: Read/Write

Description:

Allows the polarity of the input to be reversed.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : When the input is off, the selected function will be on.	• 0	
• On : When the input is on, the selected function will be on.	• 1	• On (1)

Modbus Address: 11264 (2C00 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Inputs → Digital Input 1 (D1-1I) → High Input = 1 Sets Value

*P10.3 – **Digital Input 2 (D1-2I): Select Function***

Hold. Reg. Type: Read/Write

Description:

Allows the Digital Input to be mapped to different functions.

- The selected function will change in proportion with the input.
- Digital Inputs can only be user configured if "Control Method" is set to "User Programmable."
- All Digital Inputs are disabled if "Control Method" is set to "Local Touch Screen" or "Modbus Network."

Range: Refer to "Digital Input Function Settings" on page 3–56.

Modbus Decimal Value:

Default (decimal): Off (0)

Modbus Address: 10945 (2AC1 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Inputs → Digital Input 2 (D1-2I) → Select Function

*P10.4 – **Digital Input 2 (D1-2I): High Input = 1 Sets Value***

Hold. Reg. Type: Read/Write

Description:

Allows the polarity of the input to be reversed.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : When the input is off, the selected function will be on.	• 0	
• On : When the input is on, the selected function will be on.	• 1	• On (1)

Modbus Address: 11266 (2C02 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Inputs → Digital Input 2 (D1-2I) → High Input = 1 Sets Value

*P10.5 – **Digital Input 3 (D2-1I): Select Function***

Hold. Reg. Type: Read/Write

Description:

Allows the Digital Input to be mapped to different functions.

- The selected function will change in proportion with the input.
- Digital Inputs can only be user configured if "Control Method" is set to "User Programmable."
- All Digital Inputs are disabled if "Control Method" is set to "Local Touch Screen" or "Modbus Network."

Range: Refer to "Digital Input Function Settings" on page 3–56.

Modbus Decimal Value:

Default (decimal): Reset (287)

Modbus Address: 10946 (2AC2 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Inputs → Digital Input 3 (D2-1I) → Select Function

Parameter Details – "I/O" Menu of Parameters (continued)

*P10.6 – **Digital Input 3 (D2-1I): High Input = 1 Sets Value***

Hold. Reg. Type: Read/Write

Description:
Allows the polarity of the input to be reversed.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : When the input is off, the selected function will be on.	• 0	
• On : When the input is on, the selected function will be on.	• 1	• On (1)

Modbus Address:
11268 (2C04 hex)

Modbus Format:
16-bit unsigned

Touchscreen Menu Path:
Home → I/O → Digital Inputs → Digital Input 3 (D2-1I) → High Input = 1 Sets Value

Digital Input Function Settings

The following settings are for the "Digital Input x (x): Select Function" I/O parameters.

Settings for the "Digital Input x (x): Select Function" I/O parameters 10944–10946

Settings:	*Modbus Decimal Value:*	*Description:*
Off	0	No function selected
Start/Stop	280	• Off : Stops or Soft Stops the SR55. • On : Starts the SR55.
Freeze Ramp	285	If set to On this parameter will hold the Start Ramp even if "Current Irms" is less than the "Current Limit Level." • Off : The Soft Start Ramp is not held and the SR55 will start in the time set. • On : The Soft Start Ramp is held and the SR55 will take longer than the time set to start .
Reset	287	To reset pulse high and then low. • Off : The final state required for a reset. • On : The initial state required for a reset.
iERS on/off	330	Enables and disables the intelligent Energy Recovery System feature (iERS). • Off : The feature is disabled and the motor operates at full voltage. • On : The voltage to the motor will be regulated to ensure optimum efficiency.
External Trip Command	295	Ensure start signal is low before reset. • Off : The SR55 will not trip. • On : If "External Trip" is enabled the SR55 trips.

Parameter Details – "I/O" Menu of Parameters (continued)

I/O "Digital Outputs" Parameters

P11.0 – ***Digital Output 1 N/C(12): Select Function***

Hold. Reg. Type: Read/Write

Description:

Allows the Digital Output to be mapped to different functions.

- The output will change in proportion with the selected function.
- Digital Outputs can only be user configured if the "Control Method" is set to "User Programmable."

Range: Refer to "Digital Output Function Settings" on page 3–59.

Modbus Decimal Value:

Default (decimal): Error (583)

Modbus Address: 11584 (2D40 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Outputs → Digital Output 1 N/C(12)) → Select Function

P11.1 – ***Digital Output 1 N/C(12): High Output = 1 When Value***

Hold. Reg. Type: Read/Write

Description:

Allows the polarity of the output to be reversed.

Range:

- Off : When the selected function is activated, the output is closed. • 0
- On : When the selected function is activated, the output is open. • 1

Modbus Decimal Value:

Default (decimal): • On (1)

Modbus Address: 11904 (2E80 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Outputs → Digital Output 1 N/C(12) → High Output = 1 When Value

P11.2 – ***Digital Output 2 N/O(24): Select Function***

Hold. Reg. Type: Read/Write

Description:

Allows the Digital Output to be mapped to different functions.

- The output will change in proportion with the selected function.
- Digital Outputs can only be user configured if the "Control Method" is set to "User Programmable."

Range: Refer to "Digital Output Function Settings" on page 3–59.

Modbus Decimal Value:

Default (decimal): Error (583)

Modbus Address: 11585 (2D41 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Outputs → Digital Output 2 N/O(24) → Select Function

P11.3 – ***Digital Output 2 N/O(24): High Output = 1 When Value***

Hold. Reg. Type: Read/Write

Description:

Allows the polarity of the output to be reversed.

Range:

- Off : When the selected function is activated, the output is open. • 0
- On : When the selected function is activated, the output is closed. • 1

Modbus Decimal Value:

Default (decimal): • On (1)

Modbus Address: 11906 (2E82 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Digital Outputs → Digital Output 2 N/O(24) → High Output = 1 When Value

Parameter Details – "I/O" Menu of Parameters (continued)

*P11.4 – **Digital Output 3 N/O(34): Select Function***

Hold. Reg. Type: Read/Write

Description:

Allows the Digital output to be mapped to different functions.

- The output will change in proportion with the selected function.
- Digital Outputs can only be user configured if the "Control Method" is set to "User Programmable."

Range: Refer to "Digital Output Function Settings" on page 3–59.

Modbus Decimal Value:

Default (decimal): Running (588)

Modbus Address: 11586 (2D42 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → I/O → Digital Outputs → Digital Output 3 N/O(34) → High Output = 1 When Value

*P11.5 – **Digital Output 3 N/O(34): High Output = 1 When Value***

Hold. Reg. Type: Read/Write

Description:

Allows the polarity of the output to be reversed.

Range:

- Off : When the selected function is activated, the output is open.
- On : When the selected function is activated, the output is closed.

Modbus Decimal Value:

- 0
- 1

Default (decimal):

- On (1)

Modbus Address: 11908 (2E84 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → I/O → Digital Outputs → Digital Output 3 N/O(34) → High Output = 1 When Value

*P11.6 – **Digital Output 4 N/O(44): Select Function***

Hold. Reg. Type: Read/Write

Description:

Allows the Digital output to be mapped to different functions.

- The output will change in proportion with the selected function.
- Digital Outputs can only be user configured if the "Control Method" is set to "User Programmable."

Range: Refer to "Digital Output Function Settings" on page 3–59.

Modbus Decimal Value:

Default (decimal): End of Start (590)

Modbus Address: 11587 (2D43 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → I/O → Digital Outputs → Digital Output 4 N/O(44) → Select Function

*P11.7 – **Digital Output 4 N/O(44): High Output = 1 When Value***

Hold. Reg. Type: Read/Write

Description:

Allows the polarity of the output to be reversed.

Range:

- Off : When the selected function is activated, the output is open.
- On : When the selected function is activated, the output is closed.

Modbus Decimal Value:

- 0
- 1

Default (decimal):

- On (1)

Modbus Address: 11910 (2E86 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → I/O → Digital Outputs → Digital Output 4 N/O(44) → High Output = 1 When Value

Parameter Details – "I/O" Menu of Parameters (continued)

Digital Output Function Settings

The following settings are for the "Digital Output x (x): Select Function" I/O parameters.

Settings for the "Digital Output x (x): Select Function" I/O parameters 11584–11587

Settings:	*Modbus Decimal Value:*	*Description:*
Off	0	No function selected
Ready	581	STATUS INDICATION : Ready Off : The SR55 has not powered up successfully or failed to reset from a trip. On : Indicates that the SR55 is healthy and ready for a start. Remains on when Running.
Enabled	582	STATUS INDICATION : Enabled • Off : The SR55 has not powered up successfully or failed to reset from a trip • On : Indicates that the SR55 is enabled and ready for a start. Remains on when Running.
Error	583	STATUS INDICATION : Error • Off : The SR55 is fault free. • On : Indicates that SR55 has detected a fault and has shut down. The fault must be cleared before a reset.
Running	588	STATUS INDICATION : Running • Off : The SR55 has detected a fault and tripped. • On : Indicates that the motor is running and is being actively controlled by the SR55.
End Of Start	590	STATUS INDICATION : End Of Start • Off : The SR55 is disabled or ramping down. • On : Indicates that the Soft Start ramp has been completed.
Current Limit	591	STATUS INDICATION : Current Limit • Off : The ramp is not being held because "Current I_{rms}" is less than "Current Limit Level." • On : The ramp is being held because "Current I_{rms}" is greater or equal to "Current Limit Level."
iERS Active	595	STATUS INDICATION : iERS Active • Off : The iERS saving mode has been disabled either internally or via "iERS." • On : Indicates that the SR55 is operating in the iERS energy saving Mode.
Auto Reset Pending	736	Indicates that the Reset Delay counter is counting down. • Yes: The Auto Reset Delay is counting down. • No: The Auto Reset Delay is not counting down. • To map to digital output, refer to PNU11584-PNU11587.
Auto Reset Exceeded	568	Indicates that the maximum number of reset attempts has been reached. • Yes: The number of reset attempts has exceeded the value set. • No: The number of reset attempts has not exceeded the value set. • To map to digital output, refer to PNU11584-PNU11587.
Shearpin	813	STATUS INDICATION: Shearpin • Off: This trip will not reset automatically • On: This trip will reset automatically when the Reset Delay reaches zero
Low Current	810	STATUS INDICATION: Low Current • Off: This trip will not reset automatically • On: This trip will reset automatically when the Reset Delay reaches zero

Parameter Details – "I/O" Menu of Parameters (continued)

I/O "Analog Input" Parameters

*P12.0 – **Analog Input Type***

Hold. Reg. Type: Read/Write

Description:

Defines the function of the Analog Input (AI).

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• 0–10V : The input voltage varies from 0 to 10V.	• 0	• 0–10V (0)
• 4–20mA : The input varies from 4 to 20mA.	• 1	

Modbus Address:

Modbus Format:

Touchscreen Menu Path:

*P12.1 – **Analog Input: Select Function***

Hold. Reg. Type: Read/Write

Description:

Allows the Analog Input to be mapped to different functions. The selected function will change in proportion with the input.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off	• 0	• Off (0)
• Current Limit Start	• 420	
• Current Shearpin	• 431	
• Current Overload	• 441	

Modbus Address:

9664 (25C0 hex)

Modbus Format:

16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Analog Inputs → Select Function (Analog Input)

Examples of P12.1 Analog Input Fuction Selections

AI Function Settings:	*Modbus Dec. Value:*	*Example:*
Current Limit Start	420	AI signal controls P3.3 Start Current Limit Level. Ex: Water pumping system with high head; nearly vertical lift. AI signal keeps P3.3 low at start to slowly rotate motor to control flow until height is reached, then AI signal increases P3.3 to allow motor to accelerate to full speed. Usually PLC control.
Current Shearpin	431	AI signal controls P5.6 Shearpin Trip Current. Ex: Applications such as opening and closing sluice gates or doors, which require different running current limits for opening vs. closing. AI signal changes P5.6 as needed, usually via PLC control. P5.5 Shearpin Trip is turned OFF when P5.6 level is reached; however an output should be used to stop the motor via a relay in the motor stop circuit.
Current Overload	441	AI signal controls P5.9 Overload Level. Ex: Motor testing. AI signal changes P5.8 as needed to test different motors.

Parameter Details – "I/O" Menu of Parameters (continued)

P12.2 – ***Analog Input: Scaling Level***

Type: Read/Write

Description:

Allows the selected function to be scaled. The selected function will change in proportion with the input.

- The function will be at its "Scaling Level" when the input is at its maximum.

Range:	*Modbus Decimal Value:*	*Default:*
0 – 16384	linear scale (1 = 0.006104 %) 0% – 100% = (0 – 16384) x% / 0.006104% = Modbus dec. value EX: Modbus value of 5250 = 32.05%	16384

Modbus Address: 9728 (2600 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Analog Inputs → Scaling Level

I/O "Analog Output" Parameters

P13.0 – ***Analog Output Type***

Hold. Reg. Type: Read/Write

Description:

Defines the function of the Analog Output (AO).

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• 0–10V : The output voltage varies from 0 to 10V.	• 0	• 0–10V (0)
• 4–20mA : The output varies from 4 to 20mA.	• 1	

Modbus Address: 8960 (2300 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Analog Outputs → Analog Output Type

P13.1 – ***Analog Output: Select Function***

Hold. Reg. Type: Read/Write

Description:

Allows the Analog Output to be mapped to different functions. The output will change in proportion with the selected function.

- By default the output will be at a maximum when the selected function equals its max value.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off	• 0	• Off (0)
• Current Measured	• 514	
• Overload	• 522	
• Overload SCR	• 161	
• P-Total	• 542	

Modbus Address: 9024 (2340 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Analog Outputs → Select Function (Analog Output)

Examples of P13.1 Analog Output Fuction Selections

AO Function Settings:	*Modbus Dec. Value:*	*Example:*
Current Measured	514	AO shows P15.5 Current I_{rms}. Ex: This value can be fed out to a panel ammeter for panel designs, or can be used as feedback to a PLC system for monitoring or management system such as SCADA, etc.
Overload	522	AO shows P15.20 Overload. Ex: This value can be fed back to a PLC system for monitoring or management system such as SCADA, etc.
P-Total	542	AO shows P15.8 True Power P. Ex: This value can be fed out to a panel power meter for panel designs, or can be used as feedback to a PLC system for monitoring or management system such as SCADA, etc.

Parameter Details – "I/O" Menu of Parameters (continued)

P13.2 – ***Analog Output: Scaling Level*** *Type:*

Description: Read/Write

Allows the selected function to be scaled. The output will change in proportion with the selected function.

- The output will be at a maximum when the selected function equals the "Scaling Level."

Range:	*Modbus Decimal Value:*	*Default:*
0 – 16384	linear scale (1 = 0.006104 %) 0% – 100% = (0 – 16384) x% / 0.006104% = Modbus dec. value EX: Modbus value of 5250 = 32.05%	0

Modbus Address:	*Modbus Format:*
9088 (2380 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → I/O → Analog Outputs → Scaling Level

I/O "PTC Motor Thermistor Trip" Parameter

P14.0 – ***PTC Motor Thermistor Trip*** *Hold. Reg. Type:*

Description: Read/Write

A single PTC motor thermistor or set of PTC motor thermistors can be connected to the PTC terminals.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The SR55 will continue to operate.	• 0	• Off (0)
• On : The SR55 will trip if the motor thermistor exceeds its response temperature, or the PTC input is open circuit (> 4kΩ).	• 1	

Modbus Address:	*Modbus Format:*
53794 (D222 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → I/O → PTC Motor Thermistor Trip
(also Home → Advanced → Trip Settings → PTC Motor Thermistor Trip)

Parameter Details (continued)

"Monitor" Menu of Parameters

P15.0 – Line Frequency

Description:
The frequency of the 3-phase supply.

Range:
45Hz – 65Hz

Modbus Decimal Value:
linear scale (1 = 0.001 Hz)
Freq(Hz) = (Value / 1000)

Default:
n/a

Modbus Address:
32000 (7D00 hex)

Modbus Format:
16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Line Frequency

Type:
Read Only

P15.1 – Phase Rotation

Description:
Indicates the phase sequence of the incoming supply.

Range:
- RYB = L1, L2, L3
- RBY = L1, L3, L2

Modbus Decimal Value:
- 0
- 1

Default (decimal):
- L1-L2-L3 (0)

Modbus Address:
32064 (7D40 hex)

Modbus Format:
16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Phase Rotation

Hold. Reg. Type:
Read Only

P15.2 – I1

Description:
The RMS current on phase L1.

Range:
0A – 10,000A

Modbus Decimal Value:
linear scale (1 = 1mA)
Current (A) = (Value / 1000)

Default:
0A

Modbus Address:
33536/33537 (8300/8301 hex)

Modbus Format:
32-bit unsigned

Touchscreen Menu Path:
Home → Monitor → I1

Type:
Read Only

P15.3 – I2

Description:
The RMS current on phase L2.

Range:
0A – 10,000A

Modbus Decimal Value:
linear scale (1 = 1mA)
Current (A) = (Value / 1000)

Default:
0A

Modbus Address:
33538/33539 (8302/8303 hex)

Modbus Format:
32-bit unsigned

Touchscreen Menu Path:
Home → Monitor → I2

Type:
Read Only

Parameter Details – "Monitor" Menu of Parameters (continued)

P15.4 – ***I3***

Type: Read Only

Description:
The RMS current on phase L3.

Range:	*Modbus Decimal Value:*	*Default:*
0A – 10,000A	linear scale (1 = 1mA) Current (A) = (Value / 1000)	0A

Modbus Address:	*Modbus Format:*
33540/33541 (8304/8305 hex)	32-bit unsigned

Touchscreen Menu Path:
Home → Monitor → I3

P15.5 – ***Current Irms***

Type: Read Only

Description:
The RMS motor current.
- This is the maximum of the 3 phases.
- This value is used for the overload and power calculations.

Range:	*Modbus Decimal Value:*	*Default:*
0A – 10,000A	linear scale (1 = 1mA) Current (A) = (Value / 1000)	0A

Modbus Address:	*Modbus Format:*
32896/32897 (8080/8081 hex)	32-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Current Irms

P15.6 – ***Vrms (Approx)***

Type: Read Only

Description:
The RMS 3-phase supply voltage.
- This is the average of the 3 phases.
- This value is used for power calculations.
- This value is derived internally. If a higher level of accuracy is required, a "Fixed Voltage" value can be used.
- The internally measured voltage is not an accurate method of obtaining a voltage reading. This voltage reading can have and error up to 35% if the starter and motor is unloaded or lightly loaded.

Range:	*Modbus Decimal Value:*	*Default:*
0V – 500V	linear scale (1 = 1 V)	0V

Modbus Address:	*Modbus Format:*
32960 (80C0 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Vrms (Approx)

P15.7 – ***Real Power Factor***

Type: Read Only

Description:
The actual power factor.

Range:	*Modbus Decimal Value:*	*Default:*
0 – 1	linear scale (1 = 0.001)	0

Modbus Address:	*Modbus Format:*
33024 (8100 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Real Power Factor

Parameter Details – "Monitor" Menu of Parameters (continued)

*P15.8 – **True Power P***

Type: Read Only

Description:
Total True Power. This is a sum of the 3 phases.

Range: 0kW – 10,000 kW

Modbus Decimal Value: linear scale (1 = 1W)
True Power (kW) = (Value / 1000)

Default: 0kW

Modbus Address: 34688/34689 (8780/8781 hex)

Modbus Format: 32-bit unsigned

Touchscreen Menu Path:
Home → Monitor → True Power P

*P15.9 – **Apparent Power S***

Type: Read Only

Description:
Total Apparent Power. This is a sum of the 3 phases.

Range: 0kVA – 10,000 kVA

Modbus Decimal Value: linear scale (1 = 1VA)
Apparent Power
(kVA) = (Value/1000)

Default: 0 kVA

Modbus Address: 34816/34817 (8800/8801 hex)

Modbus Format: 32-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Apparent Power S

*P15.10 – **Reactive Power Q***

Type: Read Only

Description:

Range: 0 kVAR – 10,000 kVAR

Modbus Decimal Value: linear scale (1 = 1VAR)
Reactive Power
(kVAR) = (Value / 1000)

Default: 0 kVAR

Modbus Address: 34944/34945 (8880/8881 hex)

Modbus Format: 32-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Reactive Power Q

*P15.11 – **iERS Saving Level***

Type: Read Only

Description:
Indicates the level of potential saving. 100% indicates that SR55 is saving at its maximum level.

Range: 0% – 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %)
0% – 100% = (0 – 16384)
x% / 0.006104% = Modbus dec. value
EX: Modbus value of 5250 = 32.05%

Default: 0%

Modbus Address: 35008 (88C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → iERS Saving Level

Parameter Details – "Monitor" Menu of Parameters (continued)

*P15.12 – **Delay Angle***

Type: Read Only

Description:
Internal firing delay angle. Displayed for diagnostic purposes.

Range: 0° – 55°

Modbus Decimal Value: linear scale (1 = 1° of mains cycle) Time(ms)=(Value/LineFreq)*(25/9)

Default: 0°

Modbus Address: 22400 (5780 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Delay Angle

*P15.13 – **BackStop***

Type: Read Only

Description:
The maximum possible Delay Angle for the current iERS saving phase. (Backstop starts at 55°, and can be reduced by iERS.)
- Displayed for diagnostic purposes.
- May decrease during heavy load periods or instability.
- The BackStop is the maximum iERS saving level allowed.

Range: 0° – 55°

Modbus Decimal Value: linear scale (1 = 1° of mains cycle) Time(ms)=(Value/LineFreq)*(25/9)

Default: 0°

Modbus Address: 23040 (5A00 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → BackStop

*P15.14 – **Delay Max***

Type: Read Only

Description:
The maximum possible delay for iERS saving. Displayed for diagnostic purposes. (Delay Max is internally fixed at 55°.)

Range: 0° – 55°

Modbus Decimal Value: linear scale (1 = 1° of mains cycle) Time(ms)=(Value/LineFreq)*(25/9)

Default: 0°

Modbus Address: 22464 (57C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Delay Max

*P15.15 – **Pres PF Degrees***

Type: Read Only

Description:
The Present Power Factor used by the iERS saving function. This is the actual Power Factor for the iERS saving function. The "Delay" is constantly adjusted to minimize the control loop error between "Pres PF Degrees" and "Ref PF Degrees." The parameter displays the displacement part of the True Power Factor, and is used for diagnostic purposes.

Range: 0° – 90°

Modbus Decimal Value: linear scale (1 = 1° of mains cycle) Time(ms)=(Value/LineFreq)*(25/9)

Default: 0°

Modbus Address: 21824 (5540 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Monitor → Pres PF Degrees

Parameter Details – "Monitor" Menu of Parameters (continued)

*P15.16 – **Ref PF Degrees***

Type: Read Only

Description:

The Reference Power Factor used by the iERS saving function. This is the target Power Factor for the iERS saving function. The parameter will change dynamically depending on motor operation. The parameter displays the displacement part of the True Power Factor, and is used for diagnostic purposes.

Range:	*Modbus Decimal Value:*	*Default:*
0° – 90°	linear scale (1 = 1° of mains cycle) Time(ms)=(Value/LineFreq)*(25/9)	0°

Modbus Address:	*Modbus Format:*
21760 (5500 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → Monitor → Ref PF Degrees

*P15.17 – **Start Saving Level***

Type: Read Only

Description:

- The current in Amps at which the iERS is enabled or disabled.
  The iERS function is active when the motor current is less than the "Start Saving Level."
- When the iERS function is disabled, internal bypass relays close to improve efficiency.

Range:	*Modbus Decimal Value:*	*Default:*
50% I-motor – 80% I-motor	linear scale (1 = 0.006104 %) 50% – 80% = (8191 – 13106) x% / 0.006104% = Modbus dec. value EX: Modbus value of 9000 = 54.936%	80% I-motor

Modbus Address:	*Modbus Format:*
21320 (5348 hex)	16-bit unsigned

Touchscreen Menu Path:

Home → Monitor → Start Saving Level

Each SR55 is tested at the factory. The Last Peak (Start) Current default may vary depending on the load that was tested.

*P18.0 – **Last Peak (Start) Current***

Type: Read Only

Description:

Displays the peak current of the last successful start.

Range:	*Modbus Decimal Value:*	*Default:*
0A – 10,000A	linear scale (1 = 1mA)	0A

Modbus Address:	*Modbus Format:*
38400/38401 (9600/9601 hex)	32-bit unsigned

Touchscreen Menu Path:

Home → Monitor → Last Peak Current
(also Home → Log → Start Current Log → Last Peak Current)

Parameter Details – "Monitor" Menu of Parameters (continued)

*P15.18 – **HeatSink Temp***

Type: Read Only

Description:

The temperature of the internal SR55 heatsink.

- The SR55 will trip when the heatsink temperature exceeds 80°C.
- The internal cooling fans will turn on if this temperature exceeds 40°C.

Range: -20°C – 80°C

Modbus Decimal Value: Address Format 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta ≥ 0 b12=0 Ta < 0 b12=1 Address Note bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 36544 (8EC0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → Monitor → HeatSink Temp

*P15.19 – **Motor Thermistor***

Type: Read Only

Description:

Indicates the state of the SR55 PTC input; designed for single, double or triple PTC in series.

- PTC thermistor standards DIN44081 / EN60738-1 apply. (< 300Ω @ 25°C, typically 4kΩ @ nominal temperature)
- The value indicated is a not in degrees Celsius, but is an internal representation.
- At 25°C the value displayed should be less than 100, and the SR55 trips when value > 400 (4kΩ). (open circuit = 1023)
- The value will increase rapidly when the motor thermistors approach their nominal temperature.
- If thermistors are connected, the "Thermistor trip" should be turned "on."

Range: 0 – 1024

Modbus Decimal Value: linear scale (1 = 1)

Default: 1024

Modbus Address: 10432 (28C0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → Monitor → Motor Thermistor

*P15.20 – **Overload***

Type: Read Only

Description:

The SR55 has an "Overload" function that is an electronic equivalent to a thermal overload.

- "Overload" displays the overload capacity, which is a measure of how close the SR55 "Overload Trip" is to tripping.
- When "Current I_{rms}" is greater than the "Overload Level," the "Overload" increases in accordance with the "Trip Class."
- When "Current I_{rms}" is less than the "Overload Level," the "Overload" decreases exponentially (if greater than 50%).
- When the "Overload" reaches 100% the SR55 will trip.
- During situations when (I-motor) is equal to (I-SR55) the overload will indicate 50%.

Range: 0% – 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %) 0% – 100% = (0 – 16384) x% / 0.006104% = Modbus dec. value EX: Modbus value of 5250 = 32.05%

Default: 0%

Modbus Address: 33408 (8280 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path: Home → Monitor → Overload

Parameter Details (continued)

"Log" Menu of Parameters

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

Event Times for Start Current, Temperature, Overload Parameters

The event time shows up on the "Start Current," "temperature," and "Overload" Logs. These events are logged at the same time, which are reflected by the 10 "Event Time" parameters.

*P16.0 – **Event Time – Last Peak Start Current / Last Temperature / Last Overload***

Holding Register Type: Read Only

Description:
Displays the event time.

Range:	*Modbus Decimal Value:*	*Default:*
hh:mm:ss	Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	GMT

Modbus Address:	*Modbus Format:*
38464 (9640 hex)	6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload

*P16.1 – **Event Time – Last Peak Start Current / Last Temperature / Last Overload -1***

Holding Register Type: Read Only

Description:
Displays the event time -1.

Range:	*Modbus Decimal Value:*	*Default:*
hh:mm:ss	Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	GMT

Modbus Address:	*Modbus Format:*
38467 (9643 hex)	6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -1

*P16.2 – **Event Time – Last Peak Start Current / Last Temperature / Last Overload -2***

Holding Register Type: Read Only

Description:
Displays the event time -2.

Range:	*Modbus Decimal Value:*	*Default:*
hh:mm:ss	Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	GMT

Modbus Address:	*Modbus Format:*
38470 (9646 hex)	6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -2

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P16.3 – **Event Time – Last Peak Start Current / Last Temperature / Last Overload -3***

Holding Register Type: Read Only

Description:
Displays the event time -3.

Range:
hh:mm:ss

Modbus Decimal Value:
Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:
GMT

Modbus Address:
38473 (9649 hex)

Modbus Format:
6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -3

*P16.4 – **Event Time – Last Peak Start Current / Last Temperature / Last Overload -4***

Holding Register Type: Read Only

Description:
Displays the event time -4.

Range:
hh:mm:ss

Modbus Decimal Value:
Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:
GMT

Modbus Address:
38476 (964C hex)

Modbus Format:
6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -4

*P16.5 – **Event Time – Last Peak Start Current / Last Temperature / Last Overload -5***

Holding Register Type: Read Only

Description:
Displays the event time -5.

Range:
hh:mm:ss

Modbus Decimal Value:
Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:
GMT

Modbus Address:
38479 (964F hex)

Modbus Format:
6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -5

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

P16.6 – ***Event Time – Last Peak Start Current / Last Temperature / Last Overload -6***

Holding Register Type: Read Only

Description:
Displays the event time -6.

Range:	*Modbus Decimal Value:*	*Default:*
hh:mm:ss	Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	GMT

Modbus Address:	*Modbus Format:*
38482 (9652 hex)	6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -6

P16.7 – ***Event Time – Last Peak Start Current / Last Temperature / Last Overload -7***

Holding Register Type: Read Only

Description:
Displays the event time -7.

Range:	*Modbus Decimal Value:*	*Default:*
hh:mm:ss	Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	GMT

Modbus Address:	*Modbus Format:*
38485 (9655 hex)	6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -7

P16.8 – ***Event Time – Last Peak Start Current / Last Temperature / Last Overload -8***

Holding Register Type: Read Only

Description:
Displays the event time -8.

Range:	*Modbus Decimal Value:*	*Default:*
hh:mm:ss	Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	GMT

Modbus Address:	*Modbus Format:*
38488 (9658 hex)	6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -8

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P16.9 – **Event Time – Last Peak Start Current / Last Temperature / Last Overload -9***

Holding Register Type: Read Only

Description:
Displays the event time -9.

Range:
hh:mm:ss

Modbus Decimal Value:
Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:
GMT

Modbus Address:
38491 (965B hex)

Modbus Format:
6 Bytes

Touchscreen Menu Path:
Home → Log → Start Current / Temperature / Overload → Last Peak Start Current / Last Temperature / Last Overload -9

Log "Trip Log" & Event Times Parameters

*P17.0 – **Last Trip***

Type: Read Only

Description:
Displays the last Fault trip.
- Refer to "Trip Code Descriptions" in this chapter.

Range:
- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:
- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:
- 0
- GMT

Modbus Address:
- Trip: 60608 (ECC0 hex)
- Trip Time: 60672 (ED00 hex)

Modbus Format:
- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:
Home → Log → Trip Log → Last Trip

*P17.1 – **Last Trip -1***

Type: Read Only

Description:
Displays the last Fault trip -1.
- Refer to "Trip Code Descriptions" in this chapter.

Range:
- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:
- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:
- 0
- GMT

Modbus Address:
- 60609 (ECC1 hex)
- 60675 (ED03 hex)

Modbus Format:
- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:
Home → Log → Trip Log → Last Trip -1

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P17.2 – **Last Trip -2***

Type: Read Only

Description:

Displays the last Fault trip -2.

- Refer to "Trip Code Descriptions" in this chapter.

Range:

- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:

- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:

- 0
- GMT

Modbus Address:

- 60610 (ECC2 hex)
- 60678 (ED06 hex)

Modbus Format:

- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:

Home → Log → Trip Log → Last Trip -2

*P17.3 – **Last Trip -3***

Type: Read Only

Description:

Displays the last Fault trip -3.

- Refer to "Trip Code Descriptions" in this chapter.

Range:

- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:

- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:

- 0
- GMT

Modbus Address:

- 60611 (ECC3 hex)
- 60681 (ED09 hex)

Modbus Format:

- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:

Home → Log → Trip Log → Last Trip -3

*P17.4 – **Last Trip -4***

Type: Read Only

Description:

Displays the last Fault trip -4.

- Refer to "Trip Code Descriptions" in this chapter.

Range:

- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:

- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:

- 0
- GMT

Modbus Address:

- 60612 (ECC4 hex)
- 60684 (ED0C hex)

Modbus Format:

- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:

Home → Log → Trip Log → Last Trip -4

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P17.5 – **Last Trip -5***

Type: Read Only

Description:

Displays the last Fault trip -5.

- Refer to "Trip Code Descriptions" in this chapter.

Range:

- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:

- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:

- 0
- GMT

Modbus Address:

- 60613 (ECC5 hex)
- 60687 (ED0F hex)

Modbus Format:

- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:

Home → Log → Trip Log → Last Trip -5

*P17.6 – **Last Trip -6***

Type: Read Only

Description:

Displays the last Fault trip -6.

- Refer to "Trip Code Descriptions" in this chapter.

Range:

- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:

- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:

- 0
- GMT

Modbus Address:

- 60614 (ECC6 hex)
- 60690 (ED12 hex)

Modbus Format:

- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:

Home → Log → Trip Log → Last Trip -6

*P17.7 – **Last Trip -7***

Type: Read Only

Description:

Displays the last Fault trip -7.

- Refer to "Trip Code Descriptions" in this chapter.

Range:

- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:

- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:

- 0
- GMT

Modbus Address:

- 60615 (ECC7 hex)
- 60693 (ED15 hex)

Modbus Format:

- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:

Home → Log → Trip Log → Last Trip -7

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P17.8 – **Last Trip -8***

Type: Read Only

Description:

Displays the last Fault trip -8.

- Refer to "Trip Code Descriptions" in this chapter.

Range:

- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:

- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:

- 0
- GMT

Modbus Address:

- 60616 (ECC8 hex)
- 60696 (ED18 hex)

Modbus Format:

- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:

Home → Log → Trip Log → Last Trip -8

*P17.9 – **Last Trip -9***

Type: Read Only

Description:

Displays the last Fault trip -9.

- Refer to "Trip Code Descriptions" in this chapter.

Range:

- Trip: 0 – 65,535
- Trip Time: hh:mm:ss

Modbus Decimal Value:

- linear scale (1 = 1)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:

- 0
- GMT

Modbus Address:

- 60617 (ECC9 hex)
- 60699 (ED1B hex)

Modbus Format:

- 16-bit unsigned
- 6 Bytes

Touchscreen Menu Path:

Home → Log → Trip Log → Last Trip -9

Log "Start Current Log" Parameters

*P18.0 – **Last Peak Current***

Type: Read Only

Description:

Displays the peak current of the last successful start.

Range:

0A – 10,000A

Modbus Decimal Value:

linear scale (1 = 1mA)
Current (A) = (Value / 1000)

Default:

0A

Modbus Address:

38400/38401 (9600/9601 hex)

Modbus Format:

32-bit unsigned

Touchscreen Menu Path:

Home → Log → Start Current Log → Last Peak Current
(Home → Monitor → Last Peak Current)

PARAMETER DETAILS – "LOG" MENU OF PARAMETERS (CONTINUED)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

P18.1 – LAST PEAK START CURRENT -1

TYPE: Read Only

DESCRIPTION:
Displays the peak current of the last successful start -1.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT:
0A – 10,000A	linear scale (1 = 1mA) Current (A) = (Value / 1000)	0A

MODBUS ADDRESS:	MODBUS FORMAT:
38402/38403 (9602/9603 hex)	32-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Log → Start Current Log → Last Peak Start Current -1

P18.2 – LAST PEAK START CURRENT -2

TYPE: Read Only

DESCRIPTION:
Displays the peak current of the last successful start -2.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT:
0A – 10,000A	linear scale (1 = 1mA) Current (A) = (Value / 1000)	0A

MODBUS ADDRESS:	MODBUS FORMAT:
38404/38405 (9604/9605 hex)	32-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Log → Start Current Log → Last Peak Start Current -2

P18.3 – LAST PEAK START CURRENT -3

TYPE: Read Only

DESCRIPTION:
Displays the peak current of the last successful start -3.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT:
0A – 10,000A	linear scale (1 = 1mA) Current (A) = (Value / 1000)	0A

MODBUS ADDRESS:	MODBUS FORMAT:
38406/38407 (9606/9607 hex)	32-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Log → Start Current Log → Last Peak Start Current -3

P18.4 – LAST PEAK START CURRENT -4

TYPE: Read Only

DESCRIPTION:
Displays the peak current of the last successful start -4.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT:
0A – 10,000A	linear scale (1 = 1mA) Current (A) = (Value / 1000)	0A

MODBUS ADDRESS:	MODBUS FORMAT:
38408/38409 (9608/9609 hex)	32-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Log → Start Current Log → Last Peak Start Current -4

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P18.5 – **Last Peak Start Current -5***

Type: Read Only

Description:
Displays the peak current of the last successful start -5.

Range: 0A – 10,000A

Modbus Decimal Value: linear scale (1 = 1mA) Current (A) = (Value / 1000)

Default: 0A

Modbus Address: 38410/38411 (960A/960B hex)

Modbus Format: 32-bit unsigned

Touchscreen Menu Path:
Home → Log → Start Current Log → Last Peak Start Current -5

*P18.6 – **Last Peak Start Current -6***

Type: Read Only

Description:
Displays the peak current of the last successful start -6.

Range: 0A – 10,000A

Modbus Decimal Value: linear scale (1 = 1mA) Current (A) = (Value / 1000)

Default: 0A

Modbus Address: 38412/38413 (960C/960D hex)

Modbus Format: 32-bit unsigned

Touchscreen Menu Path:
Home → Log → Start Current Log → Last Peak Start Current -6

*P18.7 – **Last Peak Start Current -7***

Type: Read Only

Description:
Displays the peak current of the last successful start -7.

Range: 0A – 10,000A

Modbus Decimal Value: linear scale (1 = 1mA) Current (A) = (Value / 1000)

Default: 0A

Modbus Address: 38414/38415 (960E/960F hex)

Modbus Format: 32-bit unsigned

Touchscreen Menu Path:
Home → Log → Start Current Log → Last Peak Start Current -7

*P18.8 – **Last Peak Start Current -8***

Type: Read Only

Description:
Displays the peak current of the last successful start -8.

Range: 0A – 10,000A

Modbus Decimal Value: linear scale (1 = 1mA) Current (A) = (Value / 1000)

Default: 0A

Modbus Address: 38416/38417 (9610/9611 hex)

Modbus Format: 32-bit unsigned

Touchscreen Menu Path:
Home → Log → Start Current Log → Last Peak Start Current -8

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P18.9 – **Last Peak Start Current -9***

Type: Read Only

Description:
Displays the peak current of the last successful start -9.

Range: 0A – 10,000A

Modbus Decimal Value: linear scale (1 = 1mA) Current (A) = (Value / 1000)

Default: 0A

Modbus Address: 38418/38419 (9612/9613 hex)

Modbus Format: 32-bit unsigned

Touchscreen Menu Path:
Home → Log → Start Current Log → Last Peak Start Current -9

Log "Stop Current Log" & Event Times Parameters

*P19.0 – **Last Peak Stop Current***

Type: Read Only

Description:
Displays the peak current of the last successful stop.

Range:
- Peak Current: 0A – 10,000A
- Peak Current Time: hh:mm:ss

Modbus Decimal Value:
- linear scale (1 = 1mA) Current (A) = (Value / 1000)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:
- 0A
- GMT

Modbus Address:
- Peak Current: 39040/39041 (9880/9881 hex)
- Peak Current Time: 39104/39105/39106 (98C0/98C1/98C2 hex)

Modbus Format:
- 32-bit unsigned
- 6 Bytes

Touchscreen Menu Path:
Home → Log → Stop Current Log → Last Peak Stop Current

*P19.1 – **Last Peak Stop Current -1***

Type: Read Only

Description:
Displays the peak current of the last successful stop -1.

Range:
- Peak Current: 0A – 10,000A
- Peak Current Time: hh:mm:ss

Modbus Decimal Value:
- linear scale (1 = 1mA) Current (A) = (Value / 1000)
- Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default:
- 0A
- GMT

Modbus Address:
- Peak Current: 39042/39043 (9882/9883 hex)
- Peak Current Time: 39107/39108/39109 (98C3/98C4/98C5 hex)

Modbus Format:
- 32-bit unsigned
- 6 Bytes

Touchscreen Menu Path:
Home → Log → Stop Current Log → Last Peak Stop Current -1

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P19.2 – **Last Peak Stop Current -2***

Type: Read Only

Description:
Displays the peak current of the last successful stop -2.

Range:	*Modbus Decimal Value:*	*Default:*
• Peak Current: 0A – 10,000A	• linear scale (1 = 1mA) Current (A) = (Value / 1000)	• 0A
• Peak Current Time: hh:mm:ss	• Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	• GMT

Modbus Address:	*Modbus Format:*
• Peak Current: 39044/39045 (9884/9885 hex)	• 32-bit unsigned
• Peak Current Time: 39110/39111/39112 (98C6/98C7/98C8 hex)	• 6 Bytes

Touchscreen Menu Path:
Home → Log → Stop Current Log → Last Peak Stop Current -2

*P19.3 – **Last Peak Stop Current -3***

Type: Read Only

Description:
Displays the peak current of the last successful stop -3.

Range:	*Modbus Decimal Value:*	*Default:*
• Peak Current: 0A – 10,000A	• linear scale (1 = 1mA) Current (A) = (Value / 1000)	• 0A
• Peak Current Time: hh:mm:ss	• Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	• GMT

Modbus Address:	*Modbus Format:*
• Peak Current: 39046/39047 (9886/9887 hex)	• 32-bit unsigned
• Peak Current Time: 39113/39114/39115 (98C9/98CA/98CB hex)	• 6 Bytes

Touchscreen Menu Path:
Home → Log → Stop Current Log → Last Peak Stop Current -3

*P19.4 – **Last Peak Stop Current -4***

Type: Read Only

Description:
Displays the peak current of the last successful stop -4.

Range:	*Modbus Decimal Value:*	*Default:*
• Peak Current: 0A – 10,000A	• linear scale (1 = 1mA) Current (A) = (Value / 1000)	• 0A
• Peak Current Time: hh:mm:ss	• Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	• GMT

Modbus Address:	*Modbus Format:*
• Peak Current: 39048/39049 (9888/9889 hex)	• 32-bit unsigned
• Peak Current Time: 39116/39117/39118 (98CC/98CD/98CE hex)	• 6 Bytes

Touchscreen Menu Path:
Home → Log → Stop Current Log → Last Peak Stop Current -4

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P19.5 – **Last Stop Current -5***

Type: Read Only

Description:
Displays the peak current of the last successful stop -5.

Range:	*Modbus Decimal Value:*	*Default:*
• Peak Current: 0A – 10,000A	• linear scale (1 = 1mA) Current (A) = (Value / 1000)	• 0A
• Peak Current Time: hh:mm:ss	• Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	• GMT

Modbus Address:	*Modbus Format:*
• Peak Current: 39050/39051 (988A/988B hex)	• 32-bit unsigned
• Peak Current Time: 39119/39120/39121 (98CF/98D0/98D1 hex)	• 6 Bytes

Touchscreen Menu Path:
Home → Log → Stop Current Log → Last Peak Stop Current -5

*P19.6 – **Last Peak Stop Current -6***

Type: Read Only

Description:
Displays the peak current of the last successful stop -6.

Range:	*Modbus Decimal Value:*	*Default:*
• Peak Current: 0A – 10,000A	• linear scale (1 = 1mA) Current (A) = (Value / 1000)	• 0A
• Peak Current Time: hh:mm:ss	• Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	• GMT

Modbus Address:	*Modbus Format:*
• Peak Current: 39052/39053 (988C/988D hex)	• 32-bit unsigned
• Peak Current Time: 39122/39123/39124 (98D2/98D3/98D4 hex)	• 6 Bytes

Touchscreen Menu Path:
Home → Log → Stop Current Log → Last Peak Stop Current -6

*P19.7 – **Last Peak Stop Current -7***

Type: Read Only

Description:
Displays the peak current of the last successful stop -7.

Range:	*Modbus Decimal Value:*	*Default:*
• Peak Current: 0A – 10,000A	• linear scale (1 = 1mA) Current (A) = (Value / 1000)	• 0A
• Peak Current Time: hh:mm:ss	• Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	• GMT

Modbus Address:	*Modbus Format:*
• Peak Current: 39054/39055 (988E/988F hex)	• 32-bit unsigned
• Peak Current Time: 39125/39126/39127 (98D5/98D6/98D7 hex)	• 6 Bytes

Touchscreen Menu Path:
Home → Log → Stop Current Log → Last Peak Stop Current -7

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P19.8 – **Last Peak Stop Current -8***

Type: Read Only

Description:

Displays the peak current of the last successful stop -8.

Range:	*Modbus Decimal Value:*	*Default:*
• Peak Current: 0A – 10,000A	• linear scale (1 = 1mA) Current (A) = (Value / 1000)	• 0A
• Peak Current Time: hh:mm:ss	• Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	• GMT

Modbus Address:	*Modbus Format:*
• Peak Current: 39056/39057 (9890/9891 hex)	• 32-bit unsigned
• Peak Current Time: 39128/39129/39130 (98D8/98D9/98DA hex)	• 6 Bytes

Touchscreen Menu Path:

Home → Log → Stop Current Log → Last Peak Stop Current -8

*P19.9 – **Last Peak Stop Current -9***

Type: Read Only

Description:

Displays the peak current of the last successful stop -9.

Range:	*Modbus Decimal Value:*	*Default:*
• Peak Current: 0A – 10,000A	• linear scale (1 = 1mA) Current (A) = (Value / 1000)	• 0A
• Peak Current Time: hh:mm:ss	• Time (ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)	• GMT

Modbus Address:	*Modbus Format:*
• Peak Current: 39058/39059 (9892/9893 hex)	• 32-bit unsigned
• Peak Current Time: 39131/39132/39133 (98DB/98DC/98DD hex)	• 6 Bytes

Touchscreen Menu Path:

Home → Log → Stop Current Log → Last Peak Stop Current -9

Log "Temperature Log" Parameters

*P20.0 – **Last Temperature***

Type: Read Only

Description:

Displays the heatsink temperature at the end of the last successful start.

Range:	*Modbus Decimal Value:*	*Default:*
-20°C to 80°C	bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]	ambient °C

Modbus Address:	*Modbus Format:*
39680 (9B00 hex)	16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:

Home → Log → Temperature Log → Last Temperature

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P20.1 – **Last Temperature -1***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -1.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39681 (9B01 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -1

*P20.2 – **Last Temperature -2***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -2.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39682 (9B02 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -2

*P20.3 – **Last Temperature -3***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -3.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39683 (9B03 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -3

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P20.4 – **Last Temperature -4***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -4.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39684 (9B04 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -4

*P20.5 – **Last Temperature -5***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -5.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39685 (9B05 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -5

*P20.6 – **Last Temperature -6***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -6.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39686 (9B06 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -6

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P20.7 – **Last Temperature -7***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -7.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39687 (9B07 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -7

*P20.8 – **Last Temperature -8***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -8.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39688 (9B08 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -8

*P20.9 – **Last Temperature -9***

Type: Read Only

Description:
Displays the heatsink temperature at the end of the last successful start -9.

Range: -20°C to 80°C

Modbus Decimal Value: bit12=0 [HighByte*16 + LowByte/16]bit12=1 256-[HighByte*16 + LowByte/16]

Default: ambient °C

Modbus Address: 39689 (9B09 hex)

Modbus Format: 16-bit (Highbyte=b11-b8, LowByte=b7-b0) Ta >= 0 b12=0 Ta < 0 b12=1

Touchscreen Menu Path:
Home → Log → Temperature Log → Last Temperature -9

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

Log "Overload Log" Parameters

*P21.0 – **Last Overload***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start.

Range:	*Modbus Decimal Value:*	*Default:*
0% to 100%	linear scale (1 = 0.006104 %)	0%

Modbus Address:	*Modbus Format:*
40320 (9D80 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload

*P21.1 – **Last Overload -1***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -1.

Range:	*Modbus Decimal Value:*	*Default:*
0% to 100%	linear scale (1 = 0.006104 %)	0%

Modbus Address:	*Modbus Format:*
40321 (9D81 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -1

*P21.2 – **Last Overload -2***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -2.

Range:	*Modbus Decimal Value:*	*Default:*
0% to 100%	linear scale (1 = 0.006104 %)	0%

Modbus Address:	*Modbus Format:*
40322 (9D82 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -2

*P21.3 – **Last Overload -3***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -3.

Range:	*Modbus Decimal Value:*	*Default:*
0% to 100%	linear scale (1 = 0.006104 %)	0%

Modbus Address:	*Modbus Format:*
40323 (9D83 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -3

*P21.4 – **Last Overload -4***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -4.

Range:	*Modbus Decimal Value:*	*Default:*
0% to 100%	linear scale (1 = 0.006104 %)	0%

Modbus Address:	*Modbus Format:*
40324 (9D84 hex)	16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -4

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

*P21.5 – **Last Overload -5***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -5.

Range: 0% to 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %)

Default: 0%

Modbus Address: 40325 (9D85 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -5

*P21.6 – **Last Overload -6***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -6.

Range: 0% to 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %)

Default: 0%

Modbus Address: 40326 (9D86 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -6

*P21.7 – **Last Overload -7***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -7.

Range: 0% to 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %)

Default: 0%

Modbus Address: 40327 (9D87 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -7

*P21.8 – **Last Overload -8***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -8.

Range: 0% to 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %)

Default: 0%

Modbus Address: 40328 (9D88 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -8

*P21.9 – **Last Overload -9***

Type: Read Only

Description:
Displays the overload level at the end of the last successful start -9.

Range: 0% to 100%

Modbus Decimal Value: linear scale (1 = 0.006104 %)

Default: 0%

Modbus Address: 40329 (9D89 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Log → Overload Log → Last Overload -9

Parameter Details – "Log" Menu of Parameters (continued)

Each SR55 is tested at the factory, and each unit may have a brief log history from this testing.

Log "Totals Log" Parameter

P22.0 – ***Number of Starts***

Type: Read Only

Description:
The total number of successful starts.

Range:	*Modbus Decimal Value:*	*Default:*
0 to 4,294,836,225	linear scale (1 = 1)	0

Modbus Address:	*Modbus Format:*
35840/3841 (8C00/8C01 hex)	32-bit unsigned

Touchscreen Menu Path:
Home → Log → Totals Log → Number of Starts

Log "Download Log File" Parameter

P23.0 – ***Download Log File***

Type: Read/Write

Description:
Download the full log file onto the USB flash drive.
- The SR55 logs several parameters during normal and fault conditions.
- Data is stored in CSV format.
- Log file cannot be downloaded using the remote touchscreen. Please use the on-board touchscreen only.

Range:	*Modbus Decimal Value:*	*Default:*
n/a	n/a	n/a

Modbus Address:	*Modbus Format:*
n/a	n/a

Touchscreen Menu Path:
Home → Log → Download Log File

Log "Clear Trip Log" Parameter

P24.0 – ***Clear Trip Log***

Type: Read/Write

Description:
Deletes all of the history in the Trip Log.

Range:	*Modbus Decimal Value:*	*Default:*
Yes / No	n/a	n/a

Modbus Address:	*Modbus Format:*
n/a	n/a

Touchscreen Menu Path:
Home → Log → Clear Trip Log

Parameter Details (continued)

"Device" Menu of Parameters

*P25.0 – **Update Firmware***

Type: Read/Write

Description:
Used to upgrade to the latest version of firmware using a USB flash drive.

Range: n/a

Modbus Decimal Value: n/a

Default: n/a

Modbus Address: n/a

Modbus Format: n/a

Touchscreen Menu Path:
Home → Device → Update Firmware

*P25.1 – **Date***

Type: Read/Write

Description:
Enter current date.
- Date format can be set to either dd/mm/yyyy or mm/dd/yyyy; refer to "Date format" parameter.

Range:
- dd/mm/yyyy
- mm/dd/yyyy

Modbus Decimal Value: n/a

Default: n/a

Modbus Address:
See "Time" parameter for date address.

Modbus Format: n/a

Touchscreen Menu Path:
Home → Device → Date

*P25.2 – **Time***

Type: Read/Write

Description:
Allows the time to be changed to 'local' time.

Range:
hh:mm:ss

Modbus Decimal Value:
Time(ms) since midnight (bytes5,4,3,2) and Days since 01/01/1984 (bytes1,0)

Default: GMT

Modbus Address:
14720 (3980 hex)

Modbus Format:
6 Bytes

Touchscreen Menu Path:
Home → Device → Time

Time derivation example

Time is derived from the number of milliseconds since midnight.

Date can be derived from the number of days since midnight 1st Jan 1984.

If Modbus addresses 14720 thru 14724 (6 bytes) and the time is 09:50 and the date is 9th March 2015, then the SR55 will return: 021C49782C7E.

Where: 021C4978 = # milliseconds since midnight, and 2C7E = # days since 01/01/84.

Since there are 60 seconds in a minute, 3600 seconds in an hour, and 86400 seconds in a day, the time can be derived as follows:

- *021C4978h = 35407992d (ms) = 35407 (s)*
- *Hour = 35407 mod 86400/3600 = 09*
- *Min = 35407 mod 3600/60 = 50*
- *Sec = 35407 mod 60 = 07*

So the time is 09:50:07.

For the date the SR55 will only return the number of days since 01/01/84.

So: 2C7Eh = 11390d.

PARAMETER DETAILS – "DEVICE" MENU OF PARAMETERS (CONTINUED)

P25.3 – LANGUAGE

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Selects the display language for the touchscreen.
Enter the required language from the displayed list.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT (DECIMAL):
• ENG	• 1	• English (1)
• DEU	• 2	
• FRA	• 3	
• ITA	• 4	
• CHN	• 5	
• TUR	• 6	
• POR	• 7	
• JPN	• 8	
• SRB	• 9	
• RUS	• 10	
• VIE	• 11	
• KOR	• 12	

MODBUS ADDRESS:
13376 (3440 hex)

MODBUS FORMAT:
16-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Device → Language

P25.4 – PASSCODE

TYPE: Read/Write

DESCRIPTION:

Stops unauthorized access to read/write parameters.
- The "Screen lock" must be turned on for the passcode be active.
- With passcode protection on, the SR55 can still be started and stopped. The Log and Monitor screens can also still be accessed.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT:
0 – 9 per Byte (ASCII character)	48–57 (48 = "0" ... 57 = "9")	n/a

MODBUS ADDRESS:	MODBUS FORMAT:
• 12864 (3240 hex) – Byte 3 (MSB)	• 16-bit unsigned
• 12865 (3241 hex) – Byte 2	• 16-bit unsigned
• 12866 (3242 hex) – Byte 1	• 16-bit unsigned
• 12867 (3243 hex) – Byte 0	• 16-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Device → Passcode

WARNING: IF A PASSCODE IS SET IN THE SR55 AND LOST/FORGOTTEN, YOU MUST CONTACT TECHNICAL SUPPORT FOR ASSISTANCE (800) 633-0405. THE PROCEDURE WILL REQUIRE THE UNIT BE FACTORY RESET BY AN AUTHORIZED REPRESENTATIVE.

P25.5 – BACKLIGHT TIMEOUT

TYPE: Read/Write

DESCRIPTION:

Time for backlight on display.
- After the period set, the back light on the screen will turn off.
- To reactivate, touch screen anywhere.
- To disable, set to 0.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT:
0s – 3600s	linear scale (1 = 1 s)	60s

MODBUS ADDRESS:
14208 (3780 hex)

MODBUS FORMAT:
16-bit unsigned

TOUCHSCREEN MENU PATH:
Home → Device → Backlight Timeout

Parameter Details – "Device" Menu of Parameters (continued)

Device "Networks" Parameters

P26.0 – ***Address***

Type: Read/Write

Description:
Sets the Modbus station number.

Range:	*Modbus Decimal Value:*	*Default:*
1 – 32	linear scale (1 = 1)	1

Modbus Address: 16000 (3E80 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Device → Networks → Modbus Network Settings → Address

P26.1 – ***Baud Rate***

Hold. Reg. Type: Read/Write

Description:
Sets the serial communications baud rate.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• 9600	• 0	
• 19200	• 1	• 19200 (1)
• 38400	• 2	
• 57600	• 3	
• 115200	• 4	

Modbus Address: 16064 (3EC0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Device → Networks → Modbus Network Settings → Baud Rate

P26.2 – ***Parity***

Hold. Reg. Type: Read/Write

Description:
Sets the serial communications parity bit. Also sets the stop bits.
- No parity uses 2 stop bits.
- Odd/even parity uses 1 stop bit.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• None	• 0	
• Even	• 1	• Even (1)
• Odd	• 2	

Modbus Address: 16128 (3F00 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Device → Networks → Modbus Network Settings → Parity

P26.3 – ***Traffic LEDs***

Hold. Reg. Type: Read/Write

Description:
Allows the user to check the state of the modbus communication network.
- Red LED = Receive.
- Green LED = Transmit.

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : The Red and Green LEDs display the SR55 status information. Turning traffic LEDs on will not allow normal operating LED states to indicate. Ex: Flashing red LED for a fault present.	• 0	• Off (0)
• On : The Red and Green LEDS display the traffic on the Modbus communications network.	• 1	

Modbus Address: 14080 (3700 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Device → Networks → Modbus Network Settings → Traffic LEDs

Parameter Details – "Device" Menu of Parameters (continued)

*P26.4 – **Anybus / ModbusTCP / EtherNetIP***

Type: Read Only

Description:
Modbus TCP Communication Module.
Active only with Anybus / ModbusTCP / EtherNetIP Communication Module installed.

Range:	*Modbus Decimal Value:*	*Default:*
• Address • Serial Number • Firmware Version • Connection	–	–

Modbus Address: –

Modbus Format: –

Touchscreen Menu Path:
Home → Device → Networks → Anybus / Modbus TCP / EtherNet/IP

*P26.5 – **Timeout mS***

Type: Read/Write

Description:
Communications trip Timeout period. To prevent a 'Communications Trip' (If enabled), a parameter must be written to or read within this time period.

Range:	*Modbus Decimal Value:*	*Default:*
0ms – 60,000ms	linear scale (1 = 1 ms)	5000ms

Modbus Address: 15808 (3DC0 hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Device → Networks → Timeout mS

P26.6 – Communications Shutdown

Hold. Reg. Type: Read/Write

Description:
This works in conjunction with the 'Communications Trip.'

Range:	*Modbus Decimal Value:*	*Default (decimal):*
• Off : If the 'Communication Trip' is turned 'On' the unit will trip if the communications fail.	• 0	
• On : If the 'Communication Trip' is turned 'On' the unit will shut down instead of tripping if the communications fail.	• 1	• ON (1)

Modbus Address: 53802 (D22A hex)

Modbus Format: 16-bit unsigned

Touchscreen Menu Path:
Home → Device → Networks → Communications Shutdown

PARAMETER DETAILS – "DEVICE" MENU OF PARAMETERS (CONTINUED)

DEVICE PARAMETERS

P27.0 – RESET DEFAULTS

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Restores the SR55 to the factory defaults.

- Reset to factory defaults does not reset configurations that were set up in the Anybus modules, because the configuration is stored in the communication module; not the starter.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT (DECIMAL):
• No	• 0	• No (0)
• Yes	• 1	

MODBUS ADDRESS: 62080 (F280 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Device → Reset Defaults

WARNING: IF A PASSCODE IS SET IN THE SR55 AND LOST/FORGOTTEN, YOU MUST CONTACT TECHNICAL SUPPORT FOR ASSISTANCE (800) 633-0405. THE PROCEDURE WILL REQUIRE THE UNIT BE FACTORY RESET BY AN AUTHORIZED REPRESENTATIVE. RESET DEFAULTS PARAMETER WILL NOT BE AVAILABLE IF SCREEN LOCK IS ENABLED.

P27.1 – ABOUT

TYPE: Read Only

DESCRIPTION:

Gives the SR55 model number, serial number, and current firmware versions.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT:
• Model number	–	–
• Serial Number		
• Firmware versions		

MODBUS ADDRESS: –

MODBUS FORMAT: –

TOUCHSCREEN MENU PATH:

Home → Device → About

P27.2 – SCREEN LOCK

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Stops unauthorized access to read/write parameters.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT (DECIMAL):
• Off	• 0	• Off (0)
• On	• 1	

MODBUS ADDRESS: 12992 (32C0 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Device → Screen Lock

WARNING: ENSURE THE PASSCODE IS KNOWN BEFORE SETTING THIS PARAMETER. IF A PASSCODE IS SET IN THE SR55 AND LOST/FORGOTTEN, YOU MUST CONTACT TECHNICAL SUPPORT FOR ASSISTANCE (800) 633-0405. THE PROCEDURE WILL REQUIRE THE UNIT BE FACTORY RESET BY AN AUTHORIZED REPRESENTATIVE.

P27.3 – DATE FORMAT

HOLD. REG. TYPE: Read/Write

DESCRIPTION:

Allows the date format to be changed to American.

RANGE:	MODBUS DECIMAL VALUE:	DEFAULT:
• dd/mm/yyyy	• 0	• dd/mm/yyyy
• mm/dd/yyyy	• 1	

MODBUS ADDRESS: 13248 (33C0 hex)

MODBUS FORMAT: 16-bit unsigned

TOUCHSCREEN MENU PATH:

Home → Device → Date Format

Parameter Details – "Device" Menu of Parameters (continued)

*P27.4 – **Temperature Format***

Type: Read/Write

Description:
Selects °C or °F for displayed temperatures.

Range:
- °C
- °F

Modbus Decimal Value:
- 0
- 1

Default:
- °C

Modbus Address:
13312 (3400 hex)

Modbus Format:
16-bit unsigned

Touchscreen Menu Path:
Home → Device → Temperature Format

*P27.5 – **Parameters to USB***

Hold. Reg. Type: Read/Write

Description:
Allows the user to save parameters.
- Downloads the parameters from the SR55 to the USB drive.
- Data is stored in CSV format.
- Parameters cannot be saved to a USB using the remote touchscreen. Please use the on-board touchscreen only.

Range:
- No
- Yes

Modbus Decimal Value:
- 0
- 1

Default (decimal):
- No (0)

Modbus Address:
62272 (F340)

Modbus Format:
–

Touchscreen Menu Path:
Home → Device → Parameters to USB

*P27.6 – **Parameters from USB***

Hold. Reg. Type: Read/Write

Description:
Allows the user to load parameters stored on a USB flash drive.
- Uploads the parameters from the USB drive to the SR55.
- Data is stored in CSV format.
- Parameters cannot be uploaded from a USB using the remote touchscreen. Please use the on-board touchscreen only.

Range:
- No
- Yes

Modbus Decimal Value:
- 0
- 1

Default (decimal):
- No (0)

Modbus Address:
62336 (F380)

Modbus Format:
–

Touchscreen Menu Path:
Home → Device → Parameters from USB

*P27.7 – **Service Code***

Type: n/a

Description:
Diagnostic parameter; for manufacturer's use only.

Range:
n/a

Modbus Decimal Value:
n/a

Default:
n/a

Modbus Address:
13120 (3340 hex)

Modbus Format:
n/a

Touchscreen Menu Path:
Home → Device → Service Code

"Auto Reset" Menu of Parameters

Auto Reset — *Type:* Read/Write

Description:
Enables the Auto Reset Feature.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The Auto Reset feature is disabled and all counters will be re-initialized.	• 0	• OFF (0)
• On: The Auto Reset feature is enabled.	• 1	

Modbus Address:
20736 (5100 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Auto Reset

Reset Delay — *Type:* Read/Write

Description:
The delay between the trip event and the automatic reset; if the start signal is active, the unit will re-start following the reset.
- If this is set to zero at any point, the Auto Reset feature will terminate and the counters will be re-initialized.
- When the delay is active, the Restart Pending parameter is set and the time remaining can be viewed in the Monitor menu.

Range:	*Modbus Decimal Value:*	*Default:*
0-7200 s		0

Modbus Address:
20737 (5101 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Delay

Reset Attempts — *Type:* Read/Write

Description:
The number of restart attempts allowed before the Auto Reset terminates.
- If the Auto Reset has been successful, the counter is reset back to its maximum value when the unit has been running fault free for the Trip Free Time.
- If the Auto Restart has been unsuccessful, the counters are re-initialized by applying a reset signal or removing the start signal.
- If set to zero at any point, the Auto Reset feature will terminate and the counters will be re-initialized. The number of attempts remaining can be viewed in the Monitor menu.

Range:	*Modbus Decimal Value:*	*Default:*
0-10		0

Modbus Address:
14144 (3740 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Attempts

TRIP FREE TIME — *TYPE:* Read/Write

DESCRIPTION:

The time the unit must be run trip free before the counters are re-initialized back to zero.

- If set to zero at any point, the Auto Reset feature will terminate and the counters will be re-initialized.
- The Trip Free Time can be viewed in the Monitor menu.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
0-7200 s		600

MODBUS ADDRESS: 20736 (5100 hex)

MODBUS FORMAT:

TOUCHSCREEN MENU PATH: Advanced → Auto Reset → Trip Free Time

INPUT SIDE PHASE LOSS — *TYPE:* Read/Write

DESCRIPTION:

Allows the user to select whether the unit will auto reset if an Input Side Phase Loss Trip occurs.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

MODBUS ADDRESS: 20800 (5140 hex)

MODBUS FORMAT:

TOUCHSCREEN MENU PATH: Advanced → Auto Reset → Reset Trips → Input Side Phase Loss

THERMAL — *TYPE:* Read/Write

DESCRIPTION:

Allows the user to select whether the unit will auto reset if a Thermal Trip occurs.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

MODBUS ADDRESS: 20801 (5141 hex)

MODBUS FORMAT:

TOUCHSCREEN MENU PATH: Advanced → Auto Reset → Reset Trips → Thermal

THYRISTOR FIRING — *TYPE:* Read/Write

DESCRIPTION:

Allows the user to select whether the unit will auto reset if a Thyristor Firing Trip occurs.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

MODBUS ADDRESS: 20802 (5142 hex)

MODBUS FORMAT:

TOUCHSCREEN MENU PATH: Advanced → Auto Reset → Reset Trips → Thyristor Firing

Motor Side Phase Loss — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Motor Side Phase Loss Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

Modbus Address: 20803 (5143 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Motor Side Phase Loss

Control Voltage Low — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Control Voltage Low Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

Modbus Address: 20805 (5145 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Control Voltage Low

Sensing Fault — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Sensing Fault Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

Modbus Address: 20806 (5146 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Sensing Fault

Fan — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Fan Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

Modbus Address: 20809 (5149 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Fan

Low Current — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Low Current Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20810 (514A hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Low Current

Current Limit Time Out — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Current Limit Time Out Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20811 (514B hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Current Limit Time Out

Overload — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if an Overload Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20812 (514C hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Overload

Shearpin — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Shearpin Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20813 (514D hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Shearpin

PTC Thermistor — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a PTC Thermistor Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20814 (514E hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → PTC Thermistor

External — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if an External Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20815 (514F hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → External

Communications — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Communications Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20813 (5150 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Communications

Bypass — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if a Bypass Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20817 (5151 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Bypass

COVER

TYPE: Read/Write

DESCRIPTION:

Allows the user to select whether the unit will auto reset if a Cover Trip occurs.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• OFF (0)

MODBUS ADDRESS:

20818 (5152 hex)

MODBUS FORMAT:

TOUCHSCREEN MENU PATH:

Advanced → Auto Reset → Reset Trips → Cover

PHASE ROTATION

TYPE: Read/Write

DESCRIPTION:

Allows the user to select whether the unit will auto reset if a Phase Rotation Trip occurs.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• OFF (0)

MODBUS ADDRESS:

20820 (5154 hex)

MODBUS FORMAT:

TOUCHSCREEN MENU PATH:

Advanced → Auto Reset → Reset Trips → Phase Rotation

OPERATION 4

TYPE: Read/Write

DESCRIPTION:

Allows the user to select whether the unit will auto reset if an Operation 4 Trip occurs.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

MODBUS ADDRESS:

20821 (5155 hex)

MODBUS FORMAT:

TOUCHSCREEN MENU PATH:

Advanced → Auto Reset → Reset Trips → Operation 4

CURRENT SENSOR

TYPE: Read/Write

DESCRIPTION:

Allows the user to select whether the unit will auto reset if a Current Sensor Trip occurs.

RANGE:	*MODBUS DECIMAL VALUE:*	*DEFAULT:*
• Off: The trip will not auto reset. • On: The trip will auto reset when the Reset Delay reaches zero.	• 0 • 1	• ON (1)

MODBUS ADDRESS:

20822 (5156 hex)

MODBUS FORMAT:

TOUCHSCREEN MENU PATH:

Advanced → Auto Reset → Reset Trips → Current sensor

Operation 3 — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if an Operation 3 Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20823 (5157 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Operation 3

Operation 1 — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if an Operation 1 Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20824 (5158 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Operation 1

Operation 2 — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if an Operation 2 Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20825 (5159 hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Operation 2

Operation 5 — *Type:* Read/Write

Description:
Allows the user to select whether the unit will auto reset if an Operation 5 Trip occurs.

Range:	*Modbus Decimal Value:*	*Default:*
• Off: The trip will not auto reset.	• 0	
• On: The trip will auto reset when the Reset Delay reaches zero.	• 1	• ON (1)

Modbus Address: 20826 (515A hex)

Modbus Format:

Touchscreen Menu Path:
Advanced → Auto Reset → Reset Trips → Operation 5

Trip Code Descriptions

Trip Codes (from Trip Log)	
Number & Name	***Description***
101 Input Side Phase Loss	Phase L1 missing at the instant of start up. • The L1 phase is either missing or at a very low level. • Check all incoming connections. • If a main contactor is being controlled by a digital output set to "Running," check that "Contactor Delay" (under "Start Settings") is sufficient.
102 Input Side Phase Loss	Phase L2 missing at the instant of start up. • The L2 phase is either missing or at a very low level. • Check all incoming connections. • If a main contactor is being controlled by a digital output set to "Running," check that "Contactor Delay" (under "Start Settings") is sufficient.
103 Input Side Phase Loss	Phase L3 missing at the instant of start up. • The L3 phase is either missing or at a very low level. • Check all incoming connections. • If a main contactor is being controlled by a digital output set to "Running," check that "Contactor Delay" (under "Start Settings") is sufficient.
104 - 117 Input Side Phase Loss	Any or all phases missing when the motor is being controlled (running). • L1, L2, or L3 are missing or at a very low level. • Check all incoming connections. • Check any fuses/breakers incorporated in the power circuit.
201 Maximum Temperature Exceeded	Internal heatsink temperature has exceeded 80°C. • It is possible the SR55 is operating outside specified limits. • Check enclosure ventilation and airflow around the SR55. • If the unit trips immediately, the internal temperature sensor could be faulty.
208 Thermal Sensor Trip	Thermal sensor failure. • The internal temperature sensor has failed. • Contact AutomationDirect.
300-307 Thyristor Firing Trip	One or more of the internal control thyristors (SCRs) have failed to turn on properly (In-Line "Firing Mode") • The SR55 has detected that the SCRs are not operating as expected. • Check all incoming and outgoing connections.
350-357 Thyristor Firing Trip	One or more of the internal control thyristors (SCRs) have failed to turn on properly (Delta "Firing Mode"). • The SR55 has detected that the SCRs are not operating as expected. • Check all incoming and outgoing connections.
401 Motor Side Phase Loss	One or all of the phases are missing on the motor side during the instant of start up • T1, T2, or T3 are missing or at a very low level. • Check that the motor is connected to T1, T2 and T3. • Ensure any disconnecting device between the SR55 and the motor is closed at the instant of start up.
402-403 Motor Side Phase Loss	One or all of the phases are missing on the motor side during the instant of start up when the motor is being controlled. • T1, T2 or T3 are missing or at a very low level. • Check all incoming and outgoing connections.
601 Control Voltage Too Low	The internal control supply of the SR55 level has fallen to a low level. • Can be caused by a weak 24VDC/115VAC/230VAC control supply. • Ensure 24VDC/115VAC/230VAC supply meets the requirements specified in "Electrical Installation" Chapter 2 or the Quick Start Guide.
701-710 Sensing Fault Trip	One or more of the internal control thyristors (SCRs) have failed to turn on properly. • The SR55 has detected that the SCRs are not operating as expected. • Check connections all incoming and outgoing connections.
801-802 Fan Problem	One or more of the internal cooling fans has failed. • To ensure the heatsink is cooled sufficiently, the SR55 will trip if the fans fail to operate. • Check SR55 fans for signs of damage or contamination.
1001 Short Circuit Thyristor	One or more of the internal control thyristors (SCRs) have failed short circuit. • The SR55 has detected that the SCRs are not operating as expected. • Check all incoming and outgoing connections.
1101 Low Current Trip	The motor current has been lower than the "Low Trip Level" for the "Low Trip Time" (under "Motor Protection"). • This trip is not active during soft start and soft stop and is "off" by default. • If the Low Current Trip is not required, turn "off" in "Trip Settings."

Trip Codes from Trip Log (continued)	
Number & Name	***Description***
1201 Current Limit Timeout Trip	The motor has been held in current limit longer than the "Start Current Limit Time." • It is likely that the current limit level has been set too low for the application. • Increase the current limit level or timeout period.
1202 Current Limit Timeout Trip	The motor has been held in current limit longer than the "Stop Current Limit Time." • It is likely that the current limit level has been set too low for the application. • Increase the current limit level or timeout period.
1301 Overload Trip	The "Overload" has exceeded 100%. • The SR55 is attempting to start an application that is outside its capacity or it is starting too often. • Refer to the overload trip curves to determine whether the SR55 has been sized correctly.
1302 Overload Trip	The motor current has exceeded 475% (i-SR55) for a time greater than 250ms. • The SR55 is attempting to start an application that is outside its capacity with a "high current limit level" set. • Refer to the overload trip curves to determine whether the SR55 has been sized correctly, and check current limit level.
1401 Shearpin Trip	The motor current has been higher than the "Shearpin Trip Level" for the "Shearpin Trip Time." • This trip is not active during soft start and soft stop, and is "off" by default. • If "Shearpin Trip" is not required, turn "off" in "Trip Settings."
1501 PTC Thermistor Trip	The PTC thermistor value has exceed the trip level (4kΩ). • The PTC thermistor connected to the PTC input has exceeded its response temperature, or the PTC input is open circuit. • If the PTC Trip is not required, turn "off" in "Trip Settings."
1701 Communications Trip	Communications failure. • A parameter has not been written to or polled in the time set in the "Timeout" period (under "Device Networks"). • If the "Communications Trip" is disabled, the SR55 will not be stopped by the communications failure.
1801-1802 Bypass Relay Trip	One or more of the internal bypass relays has failed to close. • The internal bypass relay has failed or the control supply is to weak. • Ensure 24VDC supply meets the requirements specified in "Electrical Installation" Chapter 2 or the Quick Start Guide.
1803 Bypass Relay Trip	One or more of the internal bypass relays has failed to open. • The internal bypass relay has failed or the control supply is too weak. • Ensure 24VDC supply meets the requirements specified in "Electrical Installation" Chapter 2 or the Quick Start Guide.
1901 Cover Open, Close to Enable Motor Start	The SR55 cover is open. • The cover is open or not closed properly. • Close cover, or if Cover Trip is not required, turn off in "Trip Settings."
2001 Remote Start is Enabled	The Remote Start signal is active. • The "Start/Stop" signal was active during power up or Reset. • Turn off "Start/Stop," or if Remote Start trip is not required, turn "off" in "Trip Settings."
2101 Rotation L1 L2 L3 Trip	The input phase rotation is RYB (L1, L2,L3). • The phase rotation is opposite to that required. • Change phase rotation, or if "RYB" trip is not required, turn "off" in "Trip Settings."
2102 Rotation L1 L3 L2 Trip	The input phase rotation is RBY (L1, L3,L2). • The phase rotation is opposite to that required. • Change phase rotation, or if "RBY" trip is not required turn "off" in "Trip Settings."
2013 Rotation Undetermined Trip	The phase rotation is undetermined. • The SR55 is unable to determine whether the input phase rotation is L1, L2, L3 or L1, L3, L2. • Check all incoming and outgoing connections.
2201-2209 MPU Trip	Internal SR55 Failure of the main processing unit. • The SR55 has failed internally and is unable to recover automatically. • Cycle the control supply. • If the fault is not cleared, then contact AutomationDirect.

Fail Safe Codes

Main Board Trip (2402 – 2436)

A trip number in the range of 2402 to 2436 indicates that a process on the main board has been affected in some way and is unable to recover automatically.

- *The trip is turned ON and OFF via the "Main Board Trip" (Advanced / Trips).*
- *The default for this trip is ON.*
- *The trip MUST be reset using the either the digital input, touchscreen, or bus command depending on the Control Method set.*
- *As this is a special case, it is NOT possible to reset this trip by cycling the control supply.*

Fail Safe Codes Associated with the Main Board	
Code #	***Description***
2402	Initialization process has been unsuccessful.
2404	Initialization of the Parameters has been unsuccessful.
2406	Initialization of the Overload has been unsuccessful.
2408	Initialization of the Parameter Read has been unsuccessful.
2410	Initialization of the Overload Read has been unsuccessful.
2412	Initialization of the Current measurement has been unsuccessful.
2420	A main process on the Main Board has been affected and is unable to recover automatically.
2422	A main process on the Main Board has been affected and is unable to recover automatically.
2424	A main process on the Main Board has been affected and is unable to recover automatically.
2426	Communication between the Main Board and Touchscreen Board has been affected and is unable to recover automatically.
2428	The modbus communication has been affected and is unable to recover automatically.
2430	The parameter save has been unsuccessful.
2432	The logging function has been unsuccessful.
2434	A main process on the Main Board has been affected and is unable to recover automatically.
2436	The Anybus communication has been affected and is unable to recover automatically.

Touchscreen Trip (2501 – 2581)

A trip number in the range of 2501 to 2581 indicates that a process on the touchscreen board has been affected in some way and is unable to recover automatically.

- *The trip is turned ON and OFF via the "Touchscreen Trip" (Advanced / Trips).*
- *The default for this trip is OFF.*
- *With the trip OFF the touchscreen display may display the 'start up' screen momentarily as it recovers automatically.*
- *When the trip is turned ON it is reset using the either the digital input or touchscreen or bus command, depending on the Control Method set.*
- *It is possible to reset this trip by cycling the control supply.*

Fail Safe Codes Associated with the Touchscreen Board		
Local Touchscreen Code	***Remote Touchscreen Code***	***Description***
2501 – 2529	2551 – 2579	A main process on the Touchscreen Board has been affected.
2530	2580	Communication between the Main board and Touchscreen Board has been affected.
2531	2581	The touchscreen has become unresponsive.

When a remote touchscreen is used the same trips can be generated. However, to discriminate between the remote and local (built in) 50 is added to each code.

Logging Trip (2601 – 2603)

Trip numbers that are in the range of 2601 to 2603 indicate that a process associated with the logging has been affected in some way and has been unable to recover automatically.

- *The trip is turned ON and OFF via the "Logging Trip" (Advanced / Trips).*
- *The default for this trip is OFF.*
- *With the trip OFF, the logging function will temporarily be disabled if a continual failure is detected.*
- *When the trip is turned ON, it is reset using the either the digital input or keypad or bus command, depending on the Control Method set.*
- *It is possible to reset this trip by cycling the control supply.*

Fail Safe Codes Associated with the Logging Function	
Code #	***Description***
2601	The initialization of the event logging function has been unsuccessful for 20 consecutive attempts.
2602	The event logging function has been unsuccessful for 20 consecutive attempts.
2603	The SD card could not be accessed 20 consecutive attempts.

Fail Safe Trip Codes

As part of the firmware upgrade procedure or if you experience a Fail Safe Trip we recommend the following steps:

Parameters have not been set or do not need to be retained.

- *Upgrade firmware (Device / Upgrade Firmware). See Appendix A for more details.*
- *Set the defaults (Device / Reset Default).*

Parameters have been set and need to be retained.

- *Upgrade firmware (Device / Upgrade Firmware). See Appendix A for more details.*
- *Upload parameters to USB stick (Device / Parameters to USB). Ensure that the SR55 is NOT displaying ANY trip code. If a trip code is displayed then reset via the digital input, touchscreen, or bus command depending on the Control Method set.*
- *Set the defaults (Device / Reset Default).*
- *Down load the parameters from the USB stick to the SR55 (Device/ Parameters from USB).*
- *Turn 'Touchscreen Trip' OFF (Advanced / Trips).*
- *Turn 'Logging Trip' OFF (Advanced / Trips).*
- *Save Parameters (Advanced / Save Parameters).*

Saving and Loading an SR55 Configuration File

Operating parameters of the unit can be copied onto a USB flash drive. To do this, attach the USB flash drive into the USB port under the front cover just above the touchscreen.

ADC part number USB-FLASH is a 4GB SanDisk USB flash drive that has been verified to work with the SR55. Other flash drives may be too wide to fit, or may not perform correctly.

From the Device Setting menu on the SR55 Home screen, scroll down to the third menu and select "Parameters to USB." This will construct a file called PARAMS.CSV, and copy it to a PARAM folder on the stick. There is no way to rename the file during the save process. If you have another PARAMS.CSV file on the flash drive, it will be overwritten. It is suggested that parameter files be archived in a separate folder with a unique name other than PARAM. A new parameter configuration must be configured on the SR55 and saved using the method described above. It is not recommended to open the .CSV file and edit parameters on a PC and resave the PARAMS file.

There is also the option to copy "Parameters From USB," which gives the ability to restore or set parameters to a known state. This function will only work on a file called PARAMS.CSV in the PARAM folder of the stick. Any other files in that folder will be ignored.

Saving a Log file

A log file is for AutomationDirect to help solve performance issues that may arise. From the Log menu on the Home screen, scroll down to the second menu and select "Download Log File." The LOG folder is created when the user connects a flash drive and selects "Download Log file" from the LOG menu. As an aid to help analyses, the log file(s) PARAMS.CSV is also created and copied into the LOG folder.