

Schneider Electric Easy TeSys Contactors

**DPE09BL****DPE18BL****DPE38BL**

UL file # E164862
CSA file # 164581

Schneider Electric's Easy TeSys Series Contactors provide an easy solution for OEMs, panel builders, contractors and system integrators who have a need for motor control, resistive load switching, and isolation applications. They are well suited for use in a wide range of applications:

- Conveyors
- Packaging
- Pumps
- Compressors
- HVAC
- Refrigeration
- Furnace applications
- Similar applications

Easy TeSys contactors have an operational life of approximately 1 million electrical operations, plus UL/CSA-approved rated current up to 52A and 25HP/600VAC.

They are suitable for the utilization categories specified in standard IEC 60947:

- AC-1: Non-inductive loads or slightly inductive loads, resistance furnaces
- AC-3: Squirrel cage motors – motor starting and breaking while running.
Example: Standard squirrel cage motors, pumps, and fans.
- AC-4: Squirrel cage or slip ring motors – applications with reverse current braking and inching.
- AC-8a: Control of sealed refrigeration compressor motors with manual reset of overload trips.
- AC-8b: Control of sealed refrigeration compressor motors with automatic reset of overload trips.

Easy TeSys 3-Pole Contactors Selection Guide

Part Number	Price	Coil voltage	HP	Weight lb [kg]	Drawing
DPE09B7	\$,;5,tc:	24VAC	3	0.705 [0.320]	PDF
DPE09BL	\$,;5,tf:	24VDC			PDF
DPE09G7	\$,;5,td:	120VAC			PDF
DPE09U7	\$,;5,te:	240VAC			PDF
DPE12B7	\$,;5,tg:	24VAC	5	0.717 [0.325]	PDF
DPE12BL	\$,;5,t9:	24VDC			PDF
DPE12G7	\$,;5,t7:	120VAC			PDF
DPE12U7	\$,;5,t8:	240VAC			PDF
DPE18B7	\$,;5,ta:	24VAC	7.5	0.728 [0.330]	PDF
DPE18BL	\$,;5,ti:	24VDC			PDF
DPE18G7	\$,;5,tb:	120VAC			PDF
DPE18U7	\$,;5,th:	240VAC			PDF
DPE25B7	\$,;5,tj:	24VAC	10	0.816 [0.370]	PDF
DPE25BL	\$,;5,tn:	24VDC			PDF
DPE25G7	\$,;5,tk:	120VAC			PDF
DPE25U7	\$,;5,tl:	240VAC			PDF
DPE32B7	\$,;5,to:	24VAC	15	0.827 [0.375]	PDF
DPE32BL	\$,;5,ts:	24VDC			PDF
DPE32G7	\$,;5,tp:	120VAC			PDF
DPE32U7	\$,;5,tq:	240VAC			PDF
DPE38B7	\$,;5,tt:	24VAC	20	0.838 [0.380]	PDF
DPE38BL	\$,;5,tx:	24VDC			PDF
DPE38G7	\$,;5,tu:	120VAC			PDF
DPE38U7	\$,;5,tv:	240VAC			PDF

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Easy TeSys 3-Pole Contactors Utilization Category AC-3							
Part Number	Standard Power Ratings of 3-Phase Motors 50/60 Hz ($\Theta \leq 140^{\circ}\text{F}$ [60°C]) [kW]						Instantaneous Auxiliary Contact
	220V 230V	380V 400 (kW)	415V (kW)	440V (kW)	500V (kW)	660V 690V (kW)	
DPE09xx	2.2	4	4	4	5.5	5.5	9
DPE12xx	3	5.5	5.5	5.5	7.5	7.5	12
DPE18xx	4	7.5	9	9	10	10	18
DPE25xx	5.5	11	11	11	15	15	25
DPE32xx	7.5	15	15	15	18.5	18.5	32
DPE38xx	9	18.5	18.5	18.5	18.5	18.5	38

Easy TeSys 3-Pole Contactors Conforming to UL and CSA Standards (North American Market)								
Part Number	Standard Power Ratings of 3-Phase Motors 50/60 Hz (Θ<140°F [60°C]) [hp]						Associated Cable Type 75°C - Cu [AWG]	Continuous Current [A]
	115V	230V 240V	200V 208V	230V 240V	460V 480V	575V 600V		
	Single-phase		3-phase					
DPE09xx	1/3	1	2	2	3	7.5	18 - 10	20
DPE12xx	1/3	1	2	2	5	7.5		25
DPE18xx	1/2	2	3	3	7.5	10		25
DPE25xx	1	3	5	5	10	15	18 - 8	32
DPE32xx	2	3	7.5	7.5	15	20	14 - 6	40
DPE38xx	2	5	10	10	20	25		52

Utilization category AC-1		
Part Number 1, 2	Non-Inductive Loads Maximum Current ($\Theta \leq 140^{\circ}\text{F}$ [60°C]) (A)	Instantaneous Auxiliary Contact
DPE09xx	20	1
DPE12xx	25	1
DPE18xx	32	1
DPE25xx	40	1
DPE32xx	50	1
DPE38xx	50	1

Coil Voltages and Code			
AC Supply (V)			
Volts 50/60 Hz	24 B7	120 G7	240 U7
DC Supply ³			
Volts	24 BL		

Notes:

1) The weights indicated are for contactors with AC control circuit. For DC or low consumption control circuit, add 0.160 kg for part numbers DPE09xx to DPE38xx.

(2) Built-in suppression device (bi-directional peak limiting diode).

(3) BL is for part numbers DPE09xx through DPE38xx.

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Environmental Characteristics			
Contactor Type		DPE09xx-DPE25xx	DPE32xx-DPE38xx
Rated Insulation Voltage (U_I)	Conforming to IEC 60947-4-1, Overvoltage category III, Degree of pollution: 3	690V	
	Conforming to UL, CSA	600V	
Rated Impulse Withstand Voltage (U_{imp})	Conforming to IEC 60947	6kV	
Conforming to Standards		IEC/EN 60947-4-1, UL 60947-4-1, CSA C22.2 No. 60947-4-1	
Product Certifications		UL E164862, CSA 164581	
Degree of Protection ¹ (Front Face Only)	Power Connection	Protection against direct finger contact IP 2X	
	Coil Connection	Protection against direct finger contact IP 2X	
IP Degree of Protection	Conforming to IEC 60529	IP20	
Ambient Air Temperature Around the Device	Storage	-76 to 176°F [-60 to 80°C]	
	Operation	23 to 140°F [-5 to 60°C]	
	Permissible	140 to 158°F [60 to 70°C], for operation at U_c	
Maximum Operating Altitude	Without derating	6561.68 ft [2000m]	
Operating Positions	Without derating	±30° occasional, in relation to normal vertical mounting plane	
Flame Resistance	Conforming to UL 95	V1	
	Conforming to IEC 60695-2-1	1562°F [850°C]	
Shock Resistance ² 1/2 Sine Wave = 11ms	Contactor open	8gn	6.4 gn
	Contactor closed	12gn	12gn
Vibration Resistance ² 5 - 300 Hz	Contactor open	1.6 gn	1.6 gn
	Contactor closed	3.2 gn	3.2 gn

Power Circuit Connection Characteristics (Connection by Cable)					
Contactor Type		DPE09xx - DPE18xx	DPE25xx	DPE32xx	DPE38xx
Wire Size and Tightening Torque (Screw Terminals)					
Flexible Cable Without Cable End [mm ²]	1 conductor	1 - 4	1.5 - 6	1.5 - 10	2.5 - 10
	2 conductor	1 - 4	1.5 - 6	1.5 - 6	2.5 - 10
Flexible Cable With Cable Ends [mm ²]	1 conductor	1 - 4	1 - 6	1 - 6	1 - 10
	2 conductor	1 - 2.5	1 - 4	1 - 4	1.5 - 6
Solid Cable Without Cable Ends [mm ²]	1 conductor	1 - 4	1.5 - 6	1.5 - 6	1.5 - 10
	2 conductor	1 - 4	1.5 - 6	1.5 - 6	2.5 - 10
Screwdriver	Philips	No. 2			
	Flat screwdriver Ø	Ø6			
Tightening Torque		15.05 Lbf • in [1.7 N • m]			
AWG		14 - 6			

Control Circuit Connection Characteristics (Screw Clamp Connections)					
Contactor Type		DPE09xx - DPE18xx	DPE25xx	DPE32xx	DPE38xx
Wire Size and Tightening Torque (Screw Clamp Connections)					
Flexible Cable Without Cable End [mm ²]	1 conductor	1 - 4	1 - 4	1 - 4	1 - 4
	2 conductor	1 - 4	1 - 4	1 - 4	1 - 4
Flexible Cable With Cable Ends [mm ²]	1 conductor	1 - 4	1 - 4	1 - 4	1 - 4
	2 conductor	1 - 2.5	1 - 2.5	1 - 2.5	1 - 2.5
Solid Cable Without Cable Ends [mm ²]	1 conductor	1 - 4	1 - 4	1 - 4	1 - 4
	2 conductor	1 - 4	1 - 4	1 - 4	1 - 4
Screwdriver	Philips	No. 2			
	Flat screwdriver Ø	Ø6			
Tightening Torque		15.05 Lbf • in [1.7 N • m]		22.13 Lbf • in [2.5N • m]	
AWG		10 - 18			

Notes:

(1) Protection provided for the cabling c.s.a. and for connection by cable.

(2) Without modifying the contact states, in the most unfavorable direction (coil energized at U_e).

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Power Circuit Characteristics							
Contactor Type		DPE09xx	DPE12xx	DPE18xx	DPE25xx	DPE32xx	DPE38xx
Rated Operational Current (I_e) ($U_e \leq 440$ V)	In AC-3, $\theta \leq 140^\circ\text{F}$ (60°C) (A)	9	12	18	25	32	38
	In AC-1, $\theta \leq 140^\circ\text{F}$ (60°C) (A)	20	25	32	40	50	50
Electrical Durability At Rated Operational Current	@ 600V	1 million operation cycles					
Rated Operational Voltage (U_e)	Up to... (V)	690					
Frequency Limits of the Operating Current	(Hz)	25 - 400					
Conventional Thermal Current (I_{th})	$\theta 140^\circ\text{F}$ [60°C] (A)	25	25	32	40	50	50
Rated Making Capacity (400V)	Conforming to IEC 60947	250	250	300	450	550	550
Rated Breaking Capacity (400V)	Conforming to IEC 60947	250	250	300	450	550	550
Permissible Short Time Rating No current flowing for preceding 15 minutes with $\theta \leq 104^\circ\text{F}$ [40°C]	For 1s (A)	210	210	240	380	430	430
	For 10s (A)	105	105	145	240	260	310
	For 1min (A)	61	61	84	120	138	150
	For 10min (A)	30	30	40	50	60	60
Protection By Fuses Short-Circuit Protection $U \leq 690$ V	Without thermal overload relay, gG fuse	Type 1 (A)	25	40	50	63	63
		Type 2 (A)	20	25	35	40	63
Average Impedance Per Pole	At I_{th} and 50Hz (m Ω)	2.5	2.5	2.5	2	2	2
Power Dissipated Per Pole for the Above Operational Currents	AC-3 (W)	0.20	0.36	0.8	1.25	2	3
	AC-1 (W)	1.56	1.56	2.5	3.2	5	5

Applications With High-Fault Short-Circuit Current Ratings			
High Fault Short-Circuit Current Rating With Fuses			
Part Number	Maximum Current	Maximum Voltage	Maximum Class J Fuse Size
DPE09xx	100kA	600VAC	25A
DPE12xx			25A
DPE18xx			30A
DPE25xx			40A
DPE32xx			60A
DPE38xx			80A
High Fault Short-Circuit Current Rating With Circuit Breakers			
Part Number	Maximum Current	Maximum Voltage	Maximum Listed Circuit Breaker Size
DPE09xx	35kA	480VAC	35A
DPE12xx			35A
DPE18xx			35A
DPE25xx			60A
DPE32xx			60A
DPE38xx			60A
High Fault Short-Circuit Current Rating With Circuit Breakers			
Part Number	Maximum Current	Maximum Voltage	Maximum Listed Circuit Breaker Size
DPE09xx	18kA	600VAC	35A
DPE12xx			35A
DPE18xx			35A
DPE25xx			35A
DPE32xx			60A
DPE38xx			60A

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Control Circuit Characteristics, AC at 140°F [60°C] Supply				
Contactor Type				DPE09xx - DPE38xx
Rated Control Circuit Voltage (U_c)			50/60 Hz	24 - 240 VAC
Control Voltage Limits	Coils 50/60 Hz	Operation		0.9 - 1.1 U_c at 50HZ and 0.85 - 1.1 U_c at 60Hz and at 140°F [60°C]
		Drop-out		0.3 - 0.6 U_c at 140°F [60°C]
Average Consumption at 68°F (20°C) and at U_c	50Hz	Inrush	CosΦ	0.75
			50/60 Hz coil	70VA
		Sealed	CosΦ	0.3
			50/60 Hz coil	7 VA
	60Hz	Inrush	CosΦ	0.75
			50/60 Hz coil	70VA
		Sealed	CosΦ	0.3
			50/60 Hz coil	7.5 VA
Heat Dissipation		50/60 Hz coil	2 - 3 W	
Operating Time ^{1,2}	Closing "C"		12 - 22 ms	
	Opening "O"		4 - 19 ms	
Mechanical Durability	50 or 60 Hz coils		-	
	50/60 Hz coil at 60Hz		10 million operating cycles	
Maximum Operating Rate at Ambient Temperature ≤140°F [60°C]				3600 operating cycles per hour

(1) The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles.

(2) The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.

Control Circuit Characteristics, DC Supply				
Contactor Type			DPE09xx - DPE38xx	
Rated Control Circuit Voltage (U_c)			24V	
Rated Insulation Voltage	Conforming to IEC 60947-1		690V	
	Conforming to UL, CSA		600V	
Control Voltage Limits	Operation		0.7 - 1.25 U_c at 140°F [60°C]	
	Dropout		0.1 - 0.25 U_c at 140°F [60°C]	
Average Consumption at 68°F [20°C] and at U_c	Inrush		5.4 W	
	Sealed		5.4 W	
Operating Time ¹	Closing "C"		63ms ± 15%	
	Opening "O"		63ms ± 15%	
Time Constant (L/R)		Closing "C"	28ms	
Mechanical Durability at U_c			30 million operating cycles	
Maximum Operating Rate at Ambient Temperature ≤140°F [60°C]			3600 operating cycles per hour	

(1) The arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is less than 10ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.

Characteristics of Auxiliary Contacts Incorporated in the Contactor		
Rated Operational Voltage (U_c)		Up to 690V
Rated Insulation Voltage (U_i)	Conforming to IEC 60947-1	690V
	Conforming to UL, CSA	600V
Conventional Thermal Current I_{th} For Ambient Temperature $\leq 140^\circ\text{F}$ [60°C]		10A
Frequency of the Operational Current		25 - 400 Hz
Minimum Switching Capacity $\lambda=10^{-8}$	U min	17V
	I min	5mA
Short-Circuit Protection Conforming to IEC 60947-5-1		gG fuse: 10A
Rated Making Capacity Conforming to IEC 60947-5-1, I_{rms}		140 - 250 A
Short-Time Rating		Permissible for 1s: 100A Permissible for 500ms: 120A Permissible for 100ms: 140A
Insulation Resistance		>10M Ω

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Rated Operational Power of Auxiliary Contacts (Conforming to IEC 60947-5-1)

AC Supply, Categories AC-14 and AC-15

Electrical durability (valid for up to 3600 operating cycles/hour)
on an inductive load such as the coil of an electromagnet:
Making power ($\cos \phi 0.7$) = 10 times the power broken ($\cos \phi 0.4$).

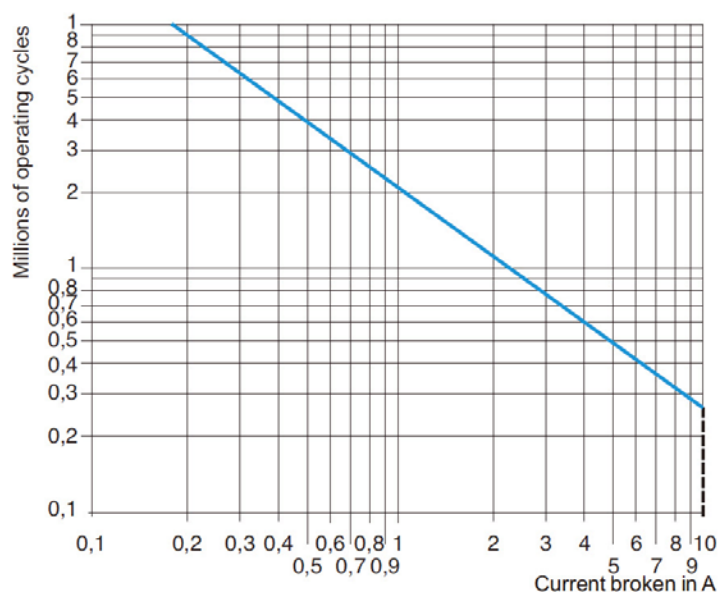
Operating Cycles	V	24	48	115	230	400	440	600
1 million operating cycles	VA	60	120	280	560	960	1050	1440
3 million operating cycles	VA	16	32	80	160	280	300	420
10 million operating cycles	VA	4	8	20	40	70	80	100

DC Supply, Category DC-13

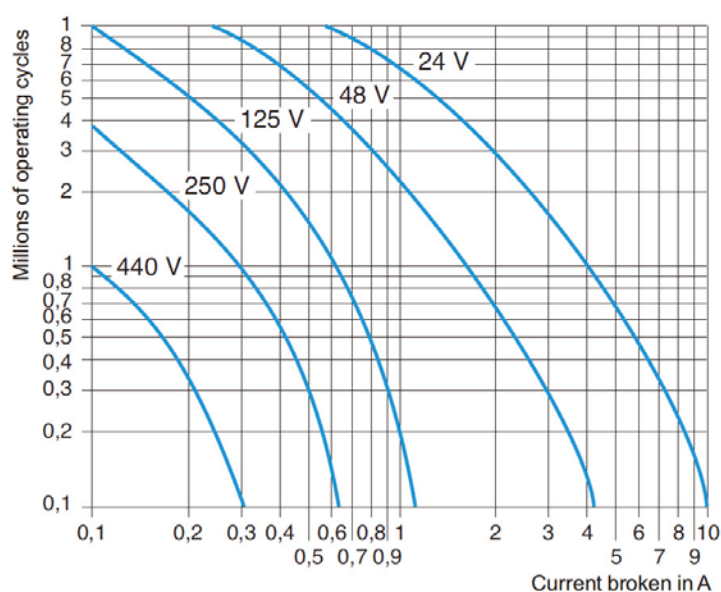
Electrical durability (valid for up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the power.

Operating Cycles	V	24	48	125	250	440
1 million operating cycles	VA	96	76	76	76	44
3 million operating cycles	VA	48	38	38	32	—
10 million operating cycles	VA	14	12	12	—	—

AC-15



DC-13



Schneider Electric Easy TeSys Contactors

Auxiliary Contact Block



Easy TeSys Auxiliary Contact Block Selection Guide					
Part Number	Price	Description	Number of Contacts Per Block	Weight lb [kg]	Drawing
DPEAN11	\$,5,uh:	Auxiliary contact block, clip on, front mount	2 (1 NO and 1 NC)	0.066 [0.030]	PDF

**DPEAN11**

Auxiliary Contact Block Environmental Characteristics (For Use in Normal Operating Environments)	
Conforming to Standards	IEC 60947-5-1, NF C 63-140, EN 60947-5-1, UL 60947-5-1 and CSA C22.2 No.60947-5-1
Product Certifications	UL, CSA
Protective Treatment	Conforming to IEC 60068
Degree of Protection (Conforming to VDE 0106)	Protection against direct finger contact IP 2X
Ambient Air Temperature Around the Device	Storage: -76 to 176°F [-60 to 80°C]
	Operation: 23 to 140°F [-5 to 60°C]
	Permissible for operation at U _c : -40 to 158°F [-40 to 70°C]
Maximum Operating Altitude Without Derating	6561.28 ft [2000m]
Connection By Cable Philips No. 2 and Ø 0.236 (6mm) Flexible or Rigid Cable With or Without Cable End	Minimum 1x1 mm ² Maximum 2x2.5 mm ²

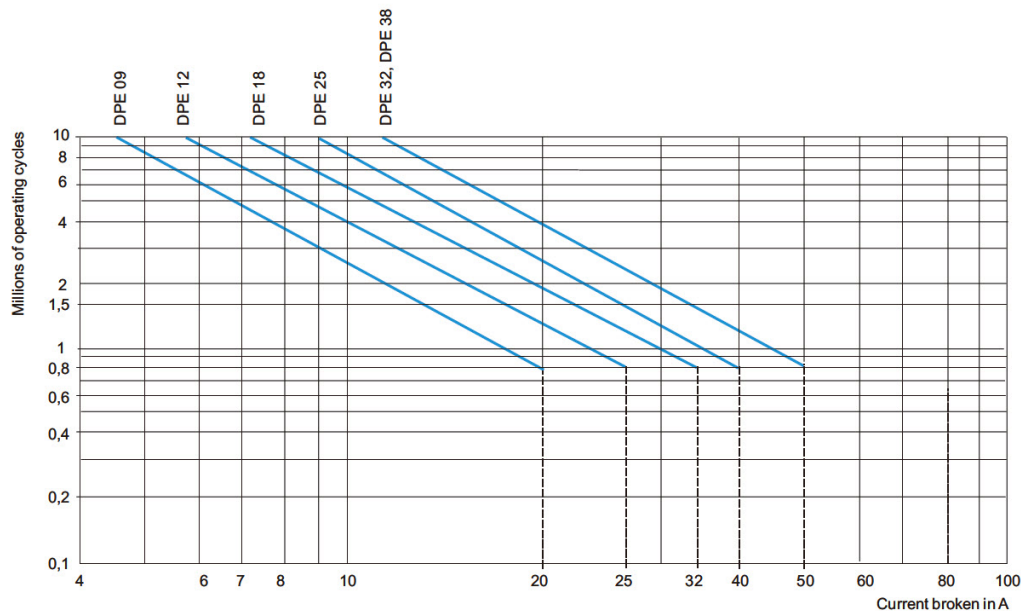
Characteristics of Instantaneous Contacts		
Number of Contacts		2
Rated Operational Voltage (U _ø)		690V
Rated Insulation Voltage (U _i)	Conforming to IEC 60947-5-1	690V
	Conforming to UL, CSA	600V
Conventional Thermal Current (I _{th}) For Ambient Temperature ≤140°F [60°C]		10A
Frequency of the Operational Current		25 - 400 Hz
Minimum Switching Capacity	U min	17V
	I min	5mA
Short-Circuit Protection Conforming to IEC 60947-5-1 and VDE 0660		gG fuse: 10A
Rated Making Capacity Conforming to IEC 60947-5-1, 1ms		AC: 140A DC: 250A
Short-Time Rating		Permissible for 1s: 100A Permissible for 500ms: 120A Permissible for 100ms: 140A
Insulation Resistance		>10mΩ
Mechanical Durability		30 million operating cycles

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Auxiliary Contact Block



Use in Category AC-1 ($U_e \leq 440$ V)



Control of resistive circuits ($\cos \varphi \geq 0.95$).

The current broken (I_c) in category AC-1 is equal to the current (I_e) normally drawn by the load.

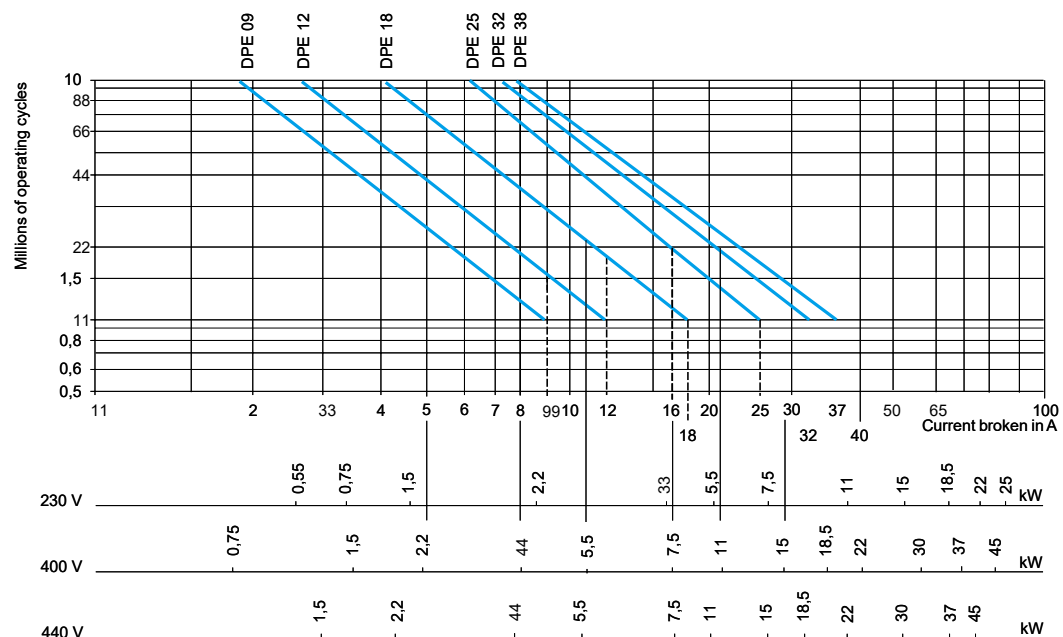
Example:

$U_e = 400$ V - $I_e = 25$ A - $\theta \leq 104^\circ$ F (40° C) - $I_c = 25$ A

1.5 million operating cycles required

The above selection curves show the contactor rating needed: DPE 25

Use in Category AC-3 ($U_e \leq 440$ V)



Control of 3-phase asynchronous squirrel cage motors with breaking while running. The current broken (I_c) in category AC-3 is equal to the rated operational current of the motor.

Example:

Asynchronous motor with $P = 5.5$ kW - $U_e = 400$ V - $I_e = 11$ A - $I_c = I_e = 11$ A

or asynchronous motor with $P = 5.5$ kW - $U_e = 415$ V - $I_e = 11$ A - $I_c = I_e = 11$ A

2 million operating cycles required

The above selection curves show the contactor rating needed: DPE 18

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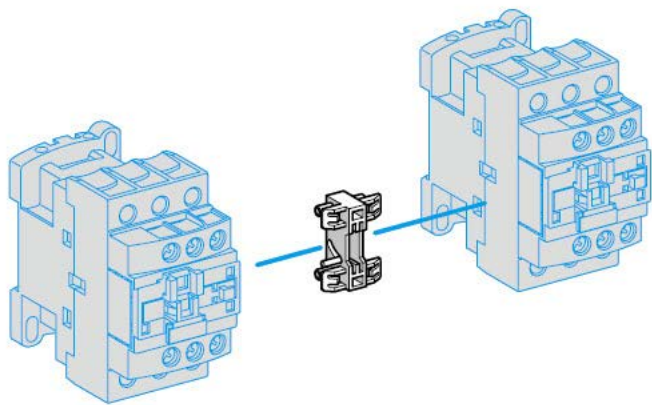
Accessories

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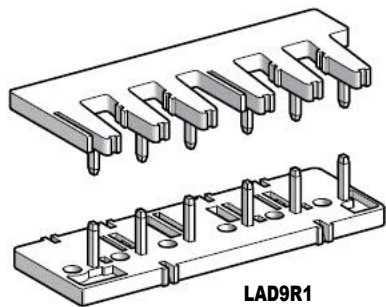


Easy TeSys Contactors Accessories Selection Guide (For 3-Pole Reversing Contactors for Motor Control ¹⁾)				
Part Number	Price	Description	Weight lb [kg]	Drawing
LAD9R1	\$;5,uq:	Kit includes 1 mechanical interlock without electrical interlocking plus 1 set of power connections.	0.099 [0.045 kg]	PDF

(1) Horizontally mounted, assembled by the customer using 2 identical contactors.



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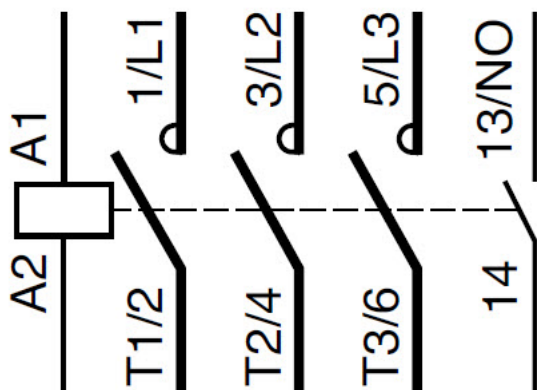


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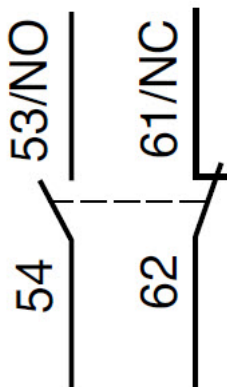
Contact Configurations

3-Pole Contactors
DPE09xx - DPE38xx



Front Mounted Add-on Contact Blocks - Instantaneous Auxiliary Contacts

1 NO + 1 NC (DPEAN11)



Schneider Electric Easy TeSys 3-Pole Thermal Overload Relays

**DP01**

Easy TeSys 3-pole thermal overload relays are designed for direct connection to Easy TeSys contactors. These thermal overload relays protect AC circuits and motors against overloads, phase failures, long starting times, and prolonged stalled rotor conditions.

The thermal relay permanently controls the current driven by the motor. When this current exceeds the setting, its auxiliary contacts will change state, causing the motor to stop.

These compensated overload relays, with manual or automatic reset, are designed for AC use with fuses or circuit breakers.

These overload relays feature a relay trip indicator.

Features

- Adjustment dial I_r
- Test button
- Operation of the Test button allows:
 - Checking of control circuit wiring
 - Simulation of relay tripping (actuates both the NO and NC contacts)
- Stop button. Actuates the NC contact; does not affect the NO contact
- Reset button
- Trip indicator
- Lockable settings dial cover
- Selector for manual or automatic reset

Easy TeSys overload relays are supplied with the selector in the manual position, protected by a cover.

Deliberate action is required to move it to the automatic position.

**DP16****DP32**

Easy TeSys Thermal Overload Relays Selection Guide (Class 10¹ for Connection Using Screw Clamp Terminals)

Part Number	Price	Relay Setting Range (A)	Fuses To Be Used		For Use With Contactor	Weight lb [kg]	Drawing
			aM (A)	gG (A)			
DP01	\$,;5,ty:	0.10 - 0.16	0.25	2	DPE09xx - DPE32xx	0.287 [0.13]	PDF
DP02	\$,;5,tz:	0.16 - 0.25	0.5	2			PDF
DP03	\$,;5,tj:	0.25 - 0.40	1	2			PDF
DP04	\$,;5,tj:	0.40 - 0.63	1	2			PDF
DP05	\$,;5,t:	0.63 - 1	2	4			PDF
DP06	\$,;5,t#:	1 - 1.6	2	4			PDF
DP07	\$,;5,tl:	1.6 - 2.5	4	6			PDF
DP08	\$,;5,t?:	2.5 - 4	6	10			PDF
DP10	\$,;5,t:	4 - 6	8	16			PDF
DP12	\$,;5,u0:	5.5 - 8	12	20			PDF
DP14	\$,;5,u1:	7 - 10	12	20	DPE12xx - DPE32xx		PDF
DP16	\$,;5,u2:	9 - 13	16	25			PDF
DP21	\$,;5,u3:	12 - 18	20	35	DPE18xx - DPE32xx		PDF
DP22	\$,;5,u4:	16 - 24	25	50	DPE25xx - DPE32xx		PDF
DP32	\$,;5,u5:	23 - 32	40	63			PDF

(1) Standard UL 60947-4-1 specifies a tripping time for 7.2 times the setting current I_R : Class 10, between 4 and 10 seconds.

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3-Pole Thermal Overload Relays



Power Circuit Characteristics		
Relay Type	DPER01 - DPER21	DPER22 - DPER32
Size	1	
Tripping Class (Conforming to IEC 60947-4-1)	10	
Rated Insulation Voltage (Conforming to IEC 60947-4-1)	690V	
Rated impulse withstand voltage (U_{imp})	6kV	
Frequency Limits of Operating Current	50-60 Hz	
Setting Range	0.1 - 18 A	16 - 38 A

Power Circuit Connections (Connection by Screw Clamp Terminals)		
Relay Type	DPER01 - DPER21	DPER22 - DPER32
	Minimum/Maximum C.S.A.	
Flexible cable without cable end - 1 conductor	1.5 - 6 mm ² AWG 16 - 10	2.5 - 10 mm ² AWG 14 - 8
Flexible cable with cable end - 1 conductor	1 - 4 mm ² AWG 18 - 10	1.5 - 6 mm ² AWG 16 - 10
Solid cable without cable end - 1 conductor	1 - 6 mm ² AWG 18 - 10	2.5 - 10 mm ² AWG 14 - 8
Tightening torque	15.05 in•lb [1.7 N•m]	22.13 in•lb (25 N•m)

Auxiliary Contact Characteristics		
Relay Type	DPER01 - DPER32	
Conforming to Standard	IEC 60947-4-1, IEC 60947-5-1, UL 60947-4-1, CSA C22.2 No. 60947-4-1	
Product Certifications	cUL, UL Listed	
Degree of Protection (Conforming to IEC 60529)	IP2X	
Protective Treatment	IEC 60068	
Ambient Air Temperature	Storage	-76 to 176°F [-60 to 80°C]
	Normal operation without derating (IEC 60947-4-1)	-4 to 140°F [-20 to 60°C]
	Minimum/maximum operating temperature (with derating)	-4 to 158°F [-20 to 70°C]
Operating Positions Without Derating (Relative to Normal Vertical Mounting Plane)	Any position	
Flame Resistance	1562°F [850°C]	
Shock Resistance	6gn - 11ms	
Vibration Resistance	3gn	
Dielectric Strength at 50Hz (Conforming to IEC 60255-5)	6kV	
Surge Withstand (Conforming to IEC 60801-5)	6kV	

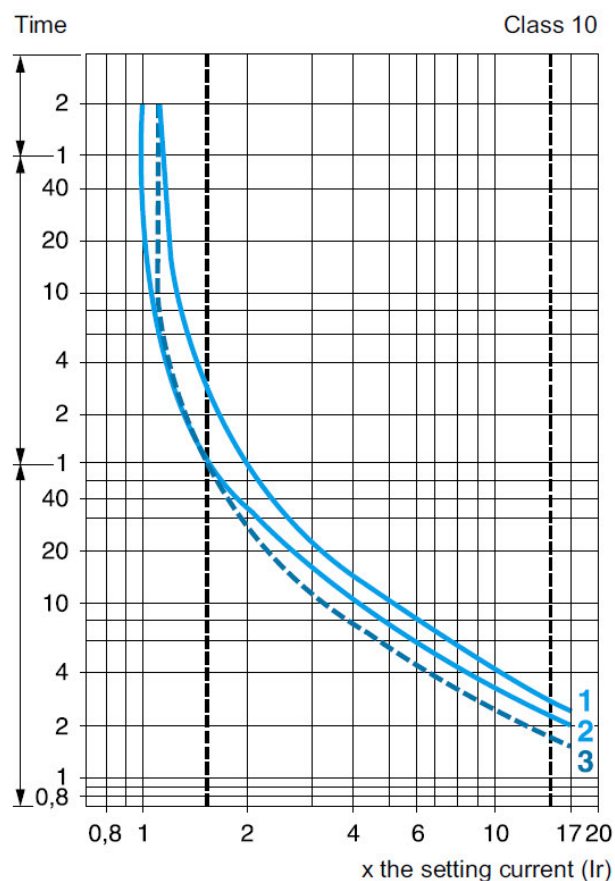
Operating Characteristics		
Relay Type	DPER01 - DPER32	
Temperature Compensation	-4 to 140°F [-20 to 60°C]	
Tripping Threshold (Conforming to IEC 60947-4-1)	1.14 ± 0.06 I _r	
Sensitivity to Phase Failure (Conforming to IEC 60947-4-1)	Tripping current 130% of I _r on two-phase, the last one at 0	
Surge Withstand (Conforming to IEC 60801-5)	6kV	

Schneider Electric Easy TeSys 3-Pole Thermal Overload Relays



Tripping Curves

Average Operating Time Related to Multiples of the Setting Current



- 1 Balanced operation, 3-phase, without prior current flow (cold state)
- 2 2-phase operation, without prior current flow (cold state)
- 3 Balanced operation, 3-phase, after a long period at the set current (hot state)

Schneider Electric Easy TeSys 3-Pole Thermal Overload Relays Panel Mount Accessory



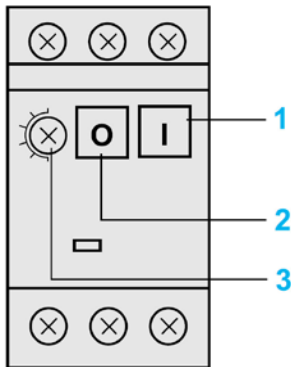
LAD7B106

Easy TeSys Thermal Overload Relays Accessory Selection Guide						
Part Number	Price	Description	For Use With Overload Relay	Package Quantity	Weight lb [kg]	Drawing
<u>LAD7B106</u>	\$;5,us:	35mm DIN rail/panel mount adapter	DPER01 - DPER32	1	0.22 lb [0.1 kg]	<u>PDF</u>

Schneider Electric Easy TeSys Manual Motor Controllers



GP2E01



The Easy TeSys line-up of motor controllers includes 3-pole thermal-magnetic circuit breakers conforming to IEC 60947-2 and IEC 60947-4-1. These devices also conform to UL 60947-4-1 as manual motor controllers and are suitable for use as the motor disconnect. Easy TeSys manual motor controllers are designed to control and protect motors.

Connection

These circuit breakers are designed for connection by screw clamp terminals. This technique ensures secure, permanent, and durable clamping that is resistant to harsh environments, vibration and impact and is even more effective when conductors without cable ends are used. Each connection can take two independent conductors.

Push button control

Energization is controlled manually by operating the Start button "I" [1]. De-energization is controlled manually by operating the Stop button "O" [2] or automatically by the thermal-magnetic protection elements or by a voltage trip attachment.

Protection of motors

Motor protection is provided by the thermal-magnetic protection elements incorporated into the motor circuit breaker. As per IEC 60947-4-1 the magnetic elements (short-circuit protection) have a non-adjustable tripping threshold, which is equal to about 13 times the maximum setting current of the thermal trips.

The thermal elements (overload protection) include automatic compensation for ambient temperature variations. The rated operational current of the motor is specified and displayed by means of a graduated knob [3]. All live parts are protected against direct finger contact.

Easy TeSys manual motor controllers are easily mounted on DIN rail or directly to the panel.

Easy TeSys Manual Motor Controller Selection Guide

Part Number	Price	Setting Range Of Thermal Trips	Weight lb [kg]	Drawing
GP2E01	\$;5,u6:	0.10 - 0.16	0.573 [0.260 kg]	PDF
GP2E02	\$;5,u7:	0.16 - 0.25		PDF
GP2E03	\$;5,u8:	0.25 - 0.40		PDF
GP2E04	\$;5,u9:	0.40 - 0.63		PDF
GP2E05	\$;5,ua:	0.63 - 1		PDF
GP2E06	\$;5,ub:	1 - 1.6		PDF
GP2E07	\$;5,uc:	1.6 - 2.5		PDF
GP2E08	\$;5,ud:	2.5 - 4		PDF
GP2E10	\$;5,ue:	4 - 6.3		PDF
GP2E14	\$;5,uf:	6 - 10		PDF
GP2E16	\$;5,ug:	9 - 14		PDF
GP2E20	\$;-5,ui:	13 - 18		PDF
GP2E21	\$;-5,uj:	17 - 23		PDF
GP2E22	\$;5,uk:	20 - 25		PDF
GP2E32	\$;-05,ul:	24 - 32		PDF

Schneider Electric Easy TeSys Manual Motor Controllers



Easy TeSys Manual Motor Controller Power Ratings							
Part Number	Standard Power Ratings of 3-Phase Motors (50/60 Hz) in Category AC-3 [kW]					Setting Range of Thermal Trips	Magnetic Tripping Current Id $\pm 20\%$
	230V	400V	440V	500V	690V		
GP2E01	–	–	–	–	–	0.10 - 0.16	1.5
GP2E02	–	–	–	–	–	0.16 - 0.25	2.4
GP2E03	–	–	–	–	–	0.25 - 0.40	5
GP2E04	–	–	–	–	0.37	0.40 - 0.63	8
GP2E05	–	–	–	0.37	0.55	0.63 - 1	13
GP2E06	–	0.37	0.55	0.75	1.1	1 - 1.6	22.5
GP2E07	0.37	0.75	1.1	1.1	1.5	1.6 - 2.5	33.5
GP2E08	0.75	1.5	1.5	2.2	3	2.5 - 4	51
GP2E10	1.1	2.2	3	3.7	4	4 - 6.3	78
GP2E14	2.2	4	4	5.5	7.5	6 - 10	138
GP2E16	–	5.5	5.5	9	11	9 - 14	170
GP2E20	4	7.5	9	10	15	13 - 18	223
GP2E21	5.5	9	11	11	18.5	17 - 23	327
GP2E22	5.5	11	11	15	22	20 - 25	327
GP2E32	7.5	15	15	18.5	22	24 - 32	416

Easy TeSys Manual Motor Controllers From 3/4 to 20HP / 460V (Screw Terminals)									
Part Number	Thermal Setting (A)	Maximum Horsepower Ratings							Group Motor Applications
		Single-Phase			3-Phase				Max Fuse or Circuit Breaker (A)
		120V	200V	230V	115V	200V	230V	460V 575V	
GP2E01	0.10 - 0.16	–	–	–	–	–	–	–	450
GP2E02	0.16 - 0.25	–	–	–	–	–	–	–	
GP2E03	0.25 - 0.40	–	–	–	–	–	–	–	
GP2E04	0.40 - 0.63	–	–	–	–	–	–	–	
GP2E05	0.63 - 1	–	–	–	–	–	–	1/2	
GP2E06	1 - 1.6	–	–	1/10	–	–	–	3/4 3/4	
GP2E07	1.6 - 2.5	–	1/6	1/6	–	1/2	1/2	1 1.5	
GP2E08	2.5 - 4	1/8	1/4	1/3	–	3/4	3/4	2 3	
GP2E10	4 - 6.3	1/4	1/2	1/2	3/4	1	1.5	3 5	
GP2E14	6 - 10	1/2	1	1.5	1	2	3	5 7.5	
GP2E16	9 - 14	3/4	2	2	2	3	3	10 10	
GP2E20	13 - 18	1	2	3	2	5	5	10 15	
GP2E21	17 - 23	1.5	3	3	3	5	7.5	15 20	
GP2E22	20 - 25	2	–	–	–	7.5	7.5	15 20	
GP2E32	24 - 32	2	5	5	5	7.5	10	20 25	

Easy TeSys Manual Motor Controller North American Short Circuit and Motor Group Ratings				
Part Number	Overload Range	Maximum RMS Short-Circuit Current [kA]		
		240V*	480V*	600V*
GP2E01	0.10 - 0.16	35	35	18
GP2E02	0.16 - 0.25	35	35	18
GP2E03	0.25 - 0.40	35	35	18
GP2E04	0.40 - 0.63	35	35	18
GP2E05	0.63 - 1	35	35	18
GP2E06	1 - 1.6	35	35	18
GP2E07	1.6 - 2.5	35	35	18
GP2E08	2.5 - 4	35	35	18
GP2E10	4 - 6.3	35	35	18
GP2E14	6 - 10	30	30	18
GP2E16	9 - 14	25	25	10
GP2E20	13 - 18	25	25	10
GP2E21	17 - 23	25	10	10
GP2E22	20 - 25	25	10	10
GP2E32	24 - 32	25	10	10

* Nominal System Voltage

Easy TeSys contactors may be used on the load side of Easy TeSys Manual Motor Controllers in group installations on a circuit with an available short-circuit current no greater than shown in the table below when protected by fuses or circuit breakers:

Easy TeSys Manual Motor Controller Use on the Load Side		
Part Number	Maximum RMS Short-Circuit Current [kA]	
	480VAC	600VAC
GP2E01	22	22
GP2E02	22	22
GP2E03	22	22
GP2E04	22	22
GP2E05	22	22
GP2E06	22	22
GP2E07	22	22
GP2E08	22	22
GP2E10	22	22
GP2E14	22	22
GP2E16	22	10
GP2E20	22	10
GP2E21	10	10
GP2E22	10	10

The above Group Installations may be used with Schneider's GV2Gx45 busbar and/or GV1G09 terminal block adapter.

Schneider Electric Easy TeSys Manual Motor Controllers



Easy TeSys Manual Motor Controller Environmental Characteristics		
Circuit Breaker Type		GP2Exx
Conforming to Standards		IEC 60947-2, IEC 60947-4-1, UL 60947-4-1, CSA C22.2 No. 60947-4-1
Product Certifications		cUL, UL Listed
Protective Treatment (Conforming to IEC 60068-2-30)		IEC60068-2-30 Test Db, Variant 2
Degree of Protection		In GV2 MC01 enclosure: IP 41 In GV2 MC02 enclosure: IP 55
Ambient Air Temperature	Storage	-40 to 176°F [-40 to 80°C]
	Operation	-4 to 140°F [-20 to 60°C]
Flame Resistance (Conforming to IEC 80695-2-1)		1760 [960°C]
Maximum Operating Altitude		6561.68 ft [2000m]
Cabling (Number of conductors and C.S.A.)	Solid cable	Min: 2x1 mm ² Max: 2x6 mm ²
	Flexible cable without cable end	Min: 2x1.5 mm ² Max: 2x6 mm ²
	Flexible cable with cable end	Min: 2x1 mm ² Max: 2x4 mm ²
	AWG 75°C CU	8 - 18
Suitable For Isolation (Conforming to IEC 60947-1 § 7-1-6)		Yes
Tightening Torque		15.05 lbf•in [1.7 N•m]
Rated Operational Voltage (U_o) (Conforming to IEC 60947-2)		690V
Rated Insulation Voltage (U_i) (Conforming to IEC 60947-2)		690V
Rated Operational Frequency (Conforming to IEC 60947-2)		50/60 Hz
Rated Impulse Withstand Voltage (U_{imp}) (Conforming to IEC 60947-2)		6kV
Total Power Dissipated Per Pole		2.5 W
Mechanical Durability		100,000 C.O. [C.O.: closing, opening]
Electrical Durability for AC-3 Duty		100,000 C.O. [C.O.: closing, opening]
Duty Class (Maximum Operating Rate)		25 C.O. [C.O.: closing, opening] per hour

Easy TeSys Manual Motor Controller Breaking Capacity										
Breaking Capacity Rating (Conforming to IEC 60947-2)		Circuit Breaker Type GP2Exx								
		01 to 06	07	08	10	14	16	20	21	22 to 32
Rating (A)		0.1 to 1.6	2.5	4	6.3	10	14	18	23	25 to 32
230/240 V	I_{cu} [kA]	*	*	*	*	*	*	*	30	30
	$I_{cs}\%$ ¹	*	*	*	*	*	*	*	100	100
400/415 V	I_{cu} [kA]	*	*	*	*	*	10	10	10	10
	$I_{cs}\%$ ¹	*	*	*	*	*	50	50	50	50
440V	I_{cu} [kA]	*	*	*	30	10	6	6	5	5
	$I_{cs}\%$ ¹	*	*	*	100	100	50	50	50	50
500V	I_{cu} [kA]	*	*	*	30	8	5	5	3	3
	$I_{cs}\%$ ¹	*	*	*	100	100	75	75	75	75
690V	I_{cu} [kA]	*	2	2	2	2	2	2	2	2
	$I_{cs}\%$ ¹	*	75	75	75	75	75	75	75	75

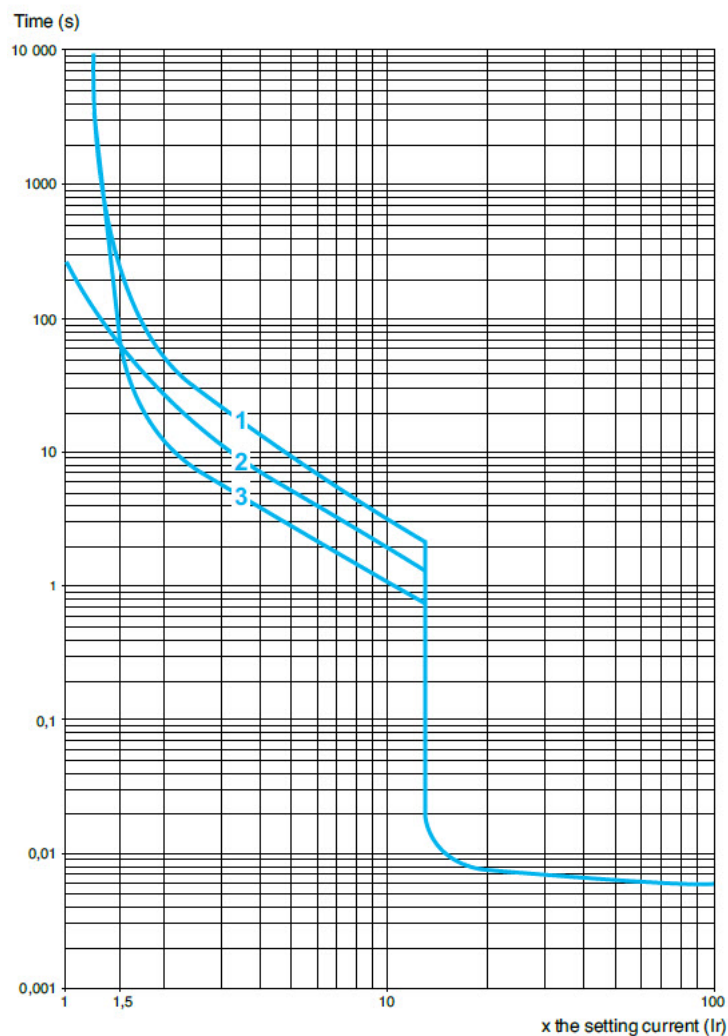
* >100kA
(1) As % of I_{cu}

Schneider Electric Easy TeSys Manual Motor Controllers



Tripping Curves

Average Operating Times at 20°C Related to Multiples of the Setting Current



- 1 3 poles from cold state
- 2 2 poles from cold state
- 3 3 poles from hot state

Schneider Electric Easy TeSys Manual Motor Controllers

**GPEFC11**

Easy TeSys Manual Motor Controller Contact Blocks Selection Guide						
Part Number	Price	Description	Maximum Number	Type of Contacts	Weight lb [kg]	Drawing
GPEFC11	\$;5,up:	Instantaneous auxiliary contacts, front mount	2	NO + NC	0.11 lb [0.050 kg]	PDF

**GV2MC02**

Easy TeSys Manual Motor Controller Enclosures Selection Guide					
Part Number	Price	Description	Degree of Protection	Weight lb [kg]	Drawing
GV2MC01	\$;5,u0:	Enclosure, surface mounting, double insulated, with protective sealable cover	IP41	0.639 lb [0.290 kg]	PDF
GV2MC02	\$;5,uy:		IP55		PDF

**GV2G445**

Easy TeSys Manual Motor Controller Busbar Accessories Selection Guide					
Part Number	Price	Description	Number of Tap-offs	Pitch	Drawing
GV2G245	\$;5,uu:	3-pole 63A busbar	2	1.77 in [45mm]	PDF
GV2G345	\$;5,uv:		3		PDF
GV2G445	\$;5,ux:		4		PDF

**GV1G09**

Easy TeSys Manual Motor Controller Terminal Block Accessories Selection Guide				
Part Number	Price	Description	Package Quantity	Drawing
GV1G09	\$;5,ut:	Terminal block, top feed incoming power	1	PDF
GV2AF3	\$;5,un:	Combination block (between GP2E and contactor DPE09 to DPE38)	10	PDF