

# MOSAIC

## MODULAR SAFETY INTEGRATED CONTROLLER



## Error Codes / Diagnostic



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# Contents

GENERIC ERRORS .....	2
Microcontroller failures.....	2
Board failures .....	3
BACKPLANE communication failures.....	4
Memory module (MCM) failures.....	4
SPECIFIC ERRORS .....	5
M1S / M1S COM / MI8O4 / MO4L OSSD failures .....	5
M1 / MI8O2 / MO2 / MO4 OSSD failures.....	6
Fieldbus modules failures.....	8
MA2/MA4 failures .....	9
MV0/MV1/MV2 errors .....	10
MOR4/MOR4S8 errors .....	11
MOS8/MOS16 errors.....	12
MO4LHCS8 errors .....	12
DIAGNOSTIC CODES.....	14
INPUT diagnostics code .....	14
OUTPUT STATUS diagnostics .....	16
OSSD OUTPUT diagnostics.....	16

## GENERIC ERRORS

### Microcontroller failures

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
0	0	MICROCONTROLLER ERROR	Ship the device to ReeR for repair
0	0	INITIAL RAM TEST FAILED = 0	
1	1	REDUNDANT MICROCONTROLLER FAILURE	
2	2	FUSE TEST FAILED	
3	3	INITIAL WD TEST FAILED	
4	4	REGISTERS TEST FAILED	
5	5	INSTRUCTIONS TEST FAILED	
6	6	ROM TEST FAILED	
7	7	OFF LINE TESTS NOT IN SEQUENCE	
8	8	OFF LINE TESTS NOT EXECUTED	
9	9	MEMORY CORRUPTED	
10	A	END OF CODE MEM REACHED	
11	B	TIMERS TEST FAILED	
12	C	INTERRUPT TEST FAILED	
13	D	INITIAL COMMUNICATION TIMEOUT	
14	E	COMMUNICATION MISSING	
15	F	RAM TEST FAILED	
16	10	SEQUENCE FAILED	
17	11	EEROM CORRUPTED	
18	12	EEROM STUCKED	
19	13	EXCHANGE FAILURE	
20	14	SERIAL PERIPHERAL INTERFACE TIMEOUT EXPIRED	
21	15	ASYNCHRONOUS SERIAL DATA FAILURE	
22	16	CLOCK FAILURE	
23	17	AD CONVERTER FAIL	
24	18	BAND-GAP VOLTAGE REFERENCE FAIL	
25	19	HW STACK OVERFLOW	
26	1A	SW STACK OVERFLOW	

## Board failures

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
32	20	ERROR BOARD	Ship the device to Reer for repair
32	20	REDUNDANT MICROCONTROLLER FAILURE	
33	21	INITIAL UNDERVOLTAGE TEST FAILED	
34	22	INITIAL START INCONGRUENCY	
35	23	INTERNAL BUS FAILED	
36	24	INPUT FEEDBACK CHANNEL TEST FAILED	
37	25	INPUT TEST FAILED	
38	26	MICROCONTROLLER ID FAILURE	
39	27	PROFET FAILURE	
40	28	NODE NUMBER ACQUISITION FAILURE	
41	29	NETWORK CONTROLLER HW FAILURE	
42	2A	NETWORK CONTROLLER SW FAILURE	
43	2B	NETWORK CONTROLLER CORE FAILURE	
44	2C	NODE INPUT TEST FAILED	
45	2D	STATUS REGISTER FAIL	
46	2E	NETWORK CONTROLLER MISSING	
47	2F	NETWORK CONTROLLER WRONG	
48	30	NETWORK CONTROLLER CONFIG ERROR	
49	31	SERIAL PERIPHERAL INTERFACE FLASH FAILURE	
50	32	SERIAL PERIPHERAL INTERFACE FLASH CORRUPTED	
51	33	MOSFET FAILURE	

## BACKPLANE communication failures

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
64	40	BACKPLANE ERROR	Check backplane connection
64	40	REDUNDANT BACKPLANE ERROR	
65	40	NO BACKPLANE SELECTION	
66	41	DOUBLE BUS SELECTION	
67	42	WRONG ANSWER	Ship the device to Reer for repair
68	43	SLAVE TIMEOUT	Check backplane connection
69	44	SLAVE ERROR	Check backplane connection / slave presence
70	45	NODE SELECTION ERROR	Check node selection
71	46	COMMAND NOT EXECUTED	Check backplane connection / restart the system
72	47	CONFIGURATION ERROR	Verify connections and project
73	48	SLAVE ERROR	Check backplane connection
74	49	INTERNAL ERROR	Ship the device to Reer for repair
75	4A	INTERNAL ERROR	
76	4B	BUS GENERIC ERROR	Check backplane connection

## Memory module (MCM) failures

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
96	60	MCM ERROR	Replace MCM
96	60	REDUNDANT MCM FAILURE	
97	61	MCM FAILURE	
98	62	MCM NOT COMPATIBLE	
99	63	MCM NOT RESPONDING	
100	64	MCM NOT WRITING	
101	65	MCM NOT WORKING	

## SPECIFIC ERRORS

### M1S / M1S COM / MI804 / MO4L OSSD failures

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
128	80	FEEDBACK SIGNAL FAILURE	Check FEEDBACK connection
129	81	OSSD1 / STATUS OFF CURRENT FAIL	Restart the system / replace module
130	82	OSSD1 FOUND ON AT STARTUP	
131	83	OSSD1 FEEDBACK SIGNALS INCONGRUENT	Check FEEDBACK connection
132	84	OSSD1 FAILURE AT STARTUP	Restart the system / replace module
133	85	OSSD1 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair
134	86	OSSD1 FEEDBACK OUT FAILURE	
135	87	REDUNDANT MICROCONTROLLER OSSD1 ON SEQUENCE	
136	88	OSSD1 ON TEST FAILED	
137	89	OSSD1 ON TEST INTERFERENCE FAILURE	
138	8A	OSSD1 ON TEST FAILED	
139	8B	OSSD1 OFF TEST FAILED	
140	8C	OSSD1 OFF TEST INTERFERENCE FAILURE	
141	8D	OSSD1 OFF TEST FAILED	
142	8E	OSSD1 OVERCURRENT FAILURE	
143	8F	REDUNDANT OSSD1 FAILURE	Restart the system / replace module
144	90	OSSD2 / STATUS OFF CURRENT FAIL	
145	91	OSSD2 FOUND ON AT STARTUP	
146	92	OSSD2 FEEDBACK SIGNALS INCONGRUENT	Check FEEDBACK connection
147	93	OSSD2 FAILURE AT STARTUP	Restart the system / replace module
148	94	OSSD2 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair
149	95	OSSD2 FEEDBACK OUT FAILURE	
150	96	REDUNDANT MICROCONTROLLER OSSD2 ON SEQUENCE	
151	97	OSSD2 ON TEST FAILED	
152	98	OSSD2 ON TEST INTERFERENCE FAILURE	
153	99	OSSD2 ON TEST FAILED	
154	9A	OSSD2 OFF TEST FAILED	
155	9B	OSSD2 OFF TEST INTERFERENCE FAILURE	
156	9C	OSSD2 OFF TEST FAILED	
157	9D	OSSD2 OVERCURRENT FAILURE	
158	9E	REDUNDANT OSSD2 FAILURE	Restart the system / replace module
159	9F	OSSD3 / STATUS OFF CURRENT FAIL	
160	A0	OSSD3 FOUND ON AT STARTUP	Check FEEDBACK connection
161	A1	OSSD3 FEEDBACK SIGNALS INCONGRUENT	
162	A2	OSSD3 FAILURE AT STARTUP	Restart the system / replace module
163	A3	OSSD3 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair
164	A4	OSSD3 FEEDBACK OUT FAILURE	
165	A5	REDUNDANT MICROCONTROLLER OSSD3 ON SEQUENCE	
166	A6	OSSD3 ON TEST FAILED	

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
167	A7	OSSD3 ON TEST INTERFERENCE FAILURE	Ship the device to ReeR for repair
168	A8	OSSD3 ON TEST FAILED	
169	A9	OSSD3 OFF TEST MASTER FAILED3	
170	AA	OSSD3 OFF TEST INTERFERENCE FAILURE	
171	AB	OSSD3 OFF TEST FAILED	Ship the device to ReeR for repair
172	AC	OSSD3 OVERCURRENT FAILURE	
173	AD	REDUNDANT OSSD3 FAILURE	Restart the system / replace module
174	AE	OSSD4 / STATUS OFF CURRENT FAIL	
175	AF	OSSD4 FOUND ON AT STARTUP	
176	B0	OSSD4 FEEDBACK SIGNALS INCONGRUENT	Check FEEDBACK connection
177	B1	OSSD4 FAILURE AT STARTUP	Restart the system / replace module
178	B2	OSSD4 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair
179	B3	OSSD4 FEEDBACK OUT FAILURE	
180	B4	REDUNDANT MICROCONTROLLER OSSD4 ON SEQUENCE	
181	B5	OSSD4 ON TEST MASTER FAILED	
182	B6	OSSD4 ON TEST INTERFERENCE FAILURE	
183	B7	OSSD4 ON TEST FAILED	
184	B8	OSSD4 OFF TEST FAILED	
185	B9	OSSD4 OFF TEST INTERFERENCE FAILURE	
186	BA	OSSD4 OFF TEST FAILED	
187	BB	OSSD4 OVERCURRENT FAILURE	
188	BC	REDUNDANT OSSD4 FAILURE	Restart the system / replace module

### M1 / MI8O2 / MO2 / MO4 OSSD failures

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
192	C0	ERROR OSSD1	Ship the device to ReeR for repair
192	C0	OSSD1 INITIAL FEEDBACK TEST FAILED	Restart the system / replace module
193	C1	OSSD1 INITIAL MONOSTABLE CHECK FAILED	
194	C2	OSSD1 INITIAL FOUND ON	
195	C3	OSSD1 INTERNAL FEEDBACK CHECK FAILED	
196	C4	OSSD1 INTERNAL FEEDBACK CHECK FAILED	Ship the device to ReeR for repair
197	C5	OSSD1 ON TEST FAILED	
198	C6	OSSD1 SHORTED	
199	C7	OSSD1 ON TEST FAILED	
200	C8	OSSD1 ON SEQUENCE	
201	C9	OSSD1 OFF TEST FAILED	
202	CA	OSSD1 ON TEST FAILED	
203	CB	OSSD1 NOT ALIGNED	
204	CC	OSSD1 MONOSTABLE CHECK FAILED	
205	CD	REDUNDANT OSSD2 FAILURE	
206	CE	OSSD2 INITIAL FEEDBACK TEST FAILED	
207	CF	OSSD 2 INITIAL MONOSTABLE CHECK FAILED	

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
208	D0	OSSD2 INITIAL FOUND ON	Restart the system / replace module
209	D1	OSSD2 INTERNAL FEEDBACK CHECK FAILED	
210	D2	OSSD2 INTERNAL FEEDBACK CHECK FAILED	Ship the device to ReeR for repair
211	D3	OSSD2 ON TEST FAILED	
212	D4	OSSD2 SHORTED	Ship the device to ReeR for repair
213	D5	OSSD2 ON TEST FAILED	
214	D6	OSSD2 ON SEQUENCE FAILED	
215	D7	OSSD2 OFF TEST FAILED	
216	D8	OSSD2 ON TEST FAILED	
217	D9	OSSD2 NOT ALIGNED	
218	DA	OSSD2 MONOSTABLE CHECK FAILED	
219	DB	REDUNDANT OSSD2 FAILURE	Restart the system / replace module
221	DD	OSSD3 INITIAL MONOSTABLE CHECK FAILED	
222	DE	OSSD3 INITIAL OSSD FOUND ON	
223	DF	OSSD3 INTERNAL FEEDBACK CHECK FAILED	Ship the device to ReeR for repair
224	E0	OSSD3 INTERNAL FEEDBACK CHECK FAILED	
225	E1	OSSD3 OSSD ON TEST FAILED	
226	E2	OSSD3 SHORTED	
227	E3	OSSD3 ON TEST FAILED	
228	E4	OSSD3 ON SEQUENCE FAILED	
229	E5	OSSD3 OFF TEST FAILED	
230	E6	OSSD3 ON TEST FAILED	
231	E7	OSSD3 NOT ALIGNED	
232	E8	OSSD3 MONOSTABLE CHECK FAILED	
233	E9	REDUNDANT OSSD3 FAILURE	Restart the system / replace module
234	EA	OSSD4 INITIAL FEEDBACK TEST FAILED	
235	EB	OSSD4 INITIAL MONOSTABLE CHECK FAILED	
236	EC	OSSD4 INITIAL FOUND ON	
237	ED	OSSD4 INTERNAL FEEDBACK CHECK FAILED	Ship the device to ReeR for repair
238	EE	OSSD4 INTERNAL FEEDBACK CHECK FAILED4	
239	EF	OSSD4 ON TEST FAILED	
240	F0	OSSD4 SHORTED	
241	F1	OSSD4 ON TEST FAILED	
242	F2	OSSD4 ON SEQUENCE	
243	F3	OSSD4 OFF TEST FAILED	
244	F4	OSSD4 ON TEST FAILED	
245	F5	OSSD4 NOT ALIGNED	
246	F6	OSSD4 MONOSTABLE CHECK FAILED	
247	F7	REDUNDANT OSSD4 FAILURE4	Restart the system



## Fieldbus modules failures

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
128	80	FIELDBUS RESTART	Replace BUS module
129	81	MISSING FIELDBUS	Check module connections
130	82	FIELDBUS CONFIGURATION ERROR	Check fieldbus configuration
131	83	FIELDBUS WRONG MODULE	Replace the wrong module
132	84	COMMUNICATION ERROR	Check fieldbus configuration
133	85	DUMMY ERROR	Ship the device to ReeR for repair
134	86	BACKWARD CONFIG. IS NOT POSSIBLE	Check BUS firmware version
135	87	FIELDBUS TIMEOUT	Check module connections
136	88	FIELDBUS CET (TIME ZONE) CONFIG. ERROR	Ship the device to ReeR for repair
137	89	ERROR MANAGEMENT	
138	8A	FIELDBUS FACTORY RESET ERROR	
139	8B	REPROGRAMMING NOT CORRECT	Reprogram module / replace module
140	8C	MICRON CONFIGURATION ERROR	Check MICRON configuration

## MA2/MA4 failures

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
128	80	MA2/MA4 BOARD ERROR	Ship the device to ReeR for repair
128	80	TIMEOUT TOKEN	
129	81	WRONG MEASURES	
130	82	CH1 INITIAL FAILURE	
131	83	CH2 INITIAL FAILURE	
132	84	CH3 INITIAL FAILURE	
133	85	CH4 INITIAL FAILURE	
134	86	CH1 FAILURE	
135	87	CH2 FAILURE	
136	88	CH3 FAILURE	
137	89	CH4 FAILURE	
138	8A	CH1 POWER SUPPLY FAILURE	
139	8B	CH2 POWER SUPPLY FAILURE	
140	8C	CH3 POWER SUPPLY FAILURE	
141	8D	CH4 POWER SUPPLY FAILURE	
142	8E	REDUNDANT MICROCONTROLLER CH1 FAILURE	
143	8F	REDUNDANT MICROCONTROLLER CH2 FAILURE	
144	90	REDUNDANT MICROCONTROLLER CH3 FAILURE	
145	91	REDUNDANT MICROCONTROLLER CH4 FAILURE	
146	92	M1S WRONG FIRMWARE	
147	93	SERIAL PERIPHERAL INTERFACE PROGRAMMING FAILURE	
148	94	WRONG BOARD ASSEMBLY	

## MV0/MV1/MV2 errors

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
128	80	MV2 BOARD ERROR	Ship the device to ReeR for repair
128	80	COMMON TEST ENCODER ERROR	
129	81	PROXY COMMON TEST ERROR	
130	82	ERROR EXCHANGED MEASURES	
131	83	DIRECT MEMORY ACCESS FAILURE	
132	84	PROXY1 TEST ERROR	
133	85	PROXY1 DISCARDED MEASURE	Check proxy signals
134	86	INITIAL IDENTIFICATION MODULE1 INCORRECT	Ship the device to ReeR for repair
135	87	ERROR TEST ENCODER1 INTERFACE	
136	88	ENCODER1 INTEGRITY TEST ERROR	Check ENCODER signals
137	89	REDUNDANT ENCODER1 FAILURE	Ship the device to ReeR for repair
138	8A	ENCODER1 DISCARDED MEASURE	Check ENCODER signals
139	8B	PROXY2 TEST ERROR	Ship the device to ReeR for repair
140	8C	PROXY2 DISCARDED MEASURE	Check proxy signals
141	8D	INITIAL IDENTIFICATION MODULE2 INCORRECT	Ship the device to ReeR for repair
142	8E	ERROR TEST ENCODER2 INTERFACE	
143	8F	ENCODER2 INTEGRITY TEST ERROR	Check ENCODER signals
144	90	REDUNDANT ENCODER2 FAILURE	Ship the device to ReeR for repair
145	91	ENCODER2 DISCARDED MEASURE	Check ENCODER signals
146	92	ERROR EXCHANGED MEASURES	Ship the device to ReeR for repair
147	93	UNDERVOLTAGE POWER SUPPLY ERROR PROXY1	Ship the device to ReeR for repair
148	94	UNDERVOLTAGE POWER SUPPLY ERROR PROXY2	
149	95	OVERLOAD PROXY1	
150	96	OVERLOAD PROXY2	

## MOR4/MOR4S8 errors

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
128	80	RELAY1 SUPPLY FAIL	Check module power supply
128	80	RELAY1 ERROR	Ship the device to ReeR for repair
129	81	RELAY1 FEEDBACK WRONG	Check module connections
130	82	INTERNAL CONTACT FEEDBACK WRONG	Ship the device to ReeR for repair
131	83	RELAY1 OFF TEST FAILED	
132	84	RELAY1 ON TEST FAILED	
133	85	RELAY1 OFF TEST FAILED	
134	86	RELAY1 ON TEST FAILED	
135	87	RELAY1 OFF SEQUENCE	
136	88	RELAY1 ON SEQUENCE	
137	89	SPARE FAULT	
138	8A	REDUNDANT RELAY1 FAILURE	
139	8B	RELAY2 FEEDBACK WRONG	
140	8C	INTERNAL CONTACT FEEDBACK2 WRONG	Ship the device to ReeR for repair
141	8D	RELAY2 OFF TEST FAILED	
142	8E	RELAY2 ON TEST FAILED	
143	8F	RELAY2 OFF TEST FAILED	
144	90	RELAY2 ON TEST FAILED	
145	91	RELAY2 OFF SEQUENCE FAILED	
146	92	RELAY2 ON SEQUENCE FAILED	
147	93	SPARE FAULT2	
148	94	REDUNDANT RELAY2 FAILURE	
149	95	RELAY3 FEEDBACK WRONG	Check module connections
150	96	INTERNAL CONTACT FEEDBACK3 WRONG	Ship the device to ReeR for repair
151	97	RELAY3 OFF TEST FAILED	
152	98	RELAY3 ON TEST FAILED	
153	99	RELAY3 OFF TEST FAILED	
154	9A	RELAY3 ON TEST FAILED	
155	9B	RELAY3 OFF SEQUENCE	
156	9C	SPARE FAULT3	
157	9D	REDUNDANT RELAY3 FAILURE	
158	9E	RELAY4 FEEDBACK WRONG	
159	9F	INTERNAL CONTACT FEEDBACK4 WRONG	
160	A0	RELAY4 OFF TEST FAILED	

## MOS8/MOS16 errors

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
128	80	FAILURE PROFET 1...8	Ship the device to ReeR for repair
129	81	FAILURE PROFET 9...16	
130	82	REDUNDANT PROFET FAILURE	

## MO4LHCS8 errors

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
128	80	MO4LHCS8 BOARD FAILURE	Ship the device to ReeR for repair
128	80	LOG FEEDBACK COMMANDS FAILURE	
129	81	OSSD1 / STATUS OFF CURRENT FAIL	Restart the system / replace module
130	82	OSSD1 FOUND ON AT STARTUP	
131	83	OSSD1 FEEDBACK SIGNALS INCONGRUENT	Check FEEDBACK connection
132	84	OSSD1 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair
133	85	OSSD1 FEEDBACK OUT FAILURE	
134	86	OSSD1 ON SEQUENCE	
135	87	OSSD1 TEST ON FAILED	
136	88	OSSD1 TEST ON INTERFERENCE FAILURE	
137	89	OSSD1 TEST ON FAILED	
138	8A	OSSD1 TEST OFF FAILED	
139	8B	OSSD1 TEST OFF INTERFERENCE FAILURE	
140	8C	OSSD1 TEST OFF FAILED	
141	8D	OSSD1 OVERCURRENT FAILURE	
142	8E	REDUNDANT OSSD1 FAILURE	Restart the system / replace module
143	8F	OSSD1 / STATUS OFF CURRENT FAIL	
144	90	OSSD2 FOUND ON AT STARTUP	Check FEEDBACK connection
145	91	OSSD2 FEEDBACK SIGNALS INCONGRUENT	
146	92	OSSD2 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair
147	93	OSSD2 FEEDBACK OUT FAILURE	
148	94	OSSD2 ON SEQUENCE FAILURE	
149	95	OSSD2 TEST ON FAILED	
150	96	OSSD2 TEST ON INTERFERENCE FAILURE	
151	97	OSSD2 TEST ON FAILED	
152	98	OSSD2 TEST OFF FAILED2	
153	99	OSSD2 TEST OFF INTERFERENCE FAILURE	
154	9A	OSSD2 TEST OFF FAILED	
155	9B	OSSD2 OVERCURRENT FAILURE	
156	9C	REDUNDANT OSSD2 OSSDs FAILURE	Restart the system / replace module
157	9D	OSSD2 / STATUS OFF CURRENT FAIL	
158	9E	OSSD3 FOUND ON AT STARTUP	Check FEEDBACK connection
159	9F	OSSD3 FEEDBACK SIGNALS INCONGRUENT	
160	A0	OSSD3 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair

DECIMAL	HEX	ERROR	CORRECTIVE ACTION
161	A1	OSSD3 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair
162	A2	OSSD3 SLAVE OSSDs ON SEQUENCE	
163	A3	OSSD3 TEST ON MASTER FAILED	
164	A4	OSSD3 TEST ON INTERFERENCE FAILURE	
165	A5	OSSD3 TEST ON SLAVE FAILED	
166	A6	OSSD3 TEST OFF MASTER FAILED	
167	A7	OSSD3 TEST OFF INTERFERENCE FAILURE	
168	A8	OSSD3 TEST OFF SLAVE FAILED	
169	A9	OSSD3 OVERCURRENT FAILURE	
170	AA	REDUNDANT OSSD3 FAILURE	Restart the system / replace module
171	AB	OSSD3 / STATUS OFF CURRENT FAIL	
172	AC	OSSD4 FOUND ON AT STARTUP	Check FEEDBACK connection
173	AD	OSSD4 FEEDBACK SIGNALS INCONGRUENT	
174	AE	OSSD4 FEEDBACK OUT FAILURE	Ship the device to ReeR for repair
175	AF	OSSD4 FEEDBACK OUT FAILURE	
176	B0	OSSD4 OSSDS ON SEQUENCE	
177	B1	OSSD4 TEST ON MASTER FAILED	
178	B2	OSSD4 TEST ON INTERFERENCE FAILURE	
179	B3	OSSD4 TEST ON SLAVE FAILED	
180	B4	OSSD4 TEST OFF MASTER FAILED	
181	B5	OSSD4 TEST OFF INTERFERENCE FAILURE	
182	B6	OSSD4 TEST OFF SLAVE FAILED	
183	B7	OSSD4 OVERCURRENT FAILURE	Restart the system / replace module
184	B8	REDUNDANT OSSD4 FAILURE	

## DIAGNOSTIC CODES

### INPUT diagnostics code

CODE		MEANING
DECIMAL	HEX	
128	80	DIAGNOSTIC INPUT OK (1)
1	1	NOT PASSED FROM ZERO (1)
2	2	SIMULTANEITY FAILED (1)
3	3	SIMULTANEITY FAILED HAND1 (1)
4	4	SIMULTANEITY FAILED HAND2 (1)
5	5	SIMULTANEITY TWO HANDS FAILED (1)
6	6	NEVER STARTED (1)
7	7	SELECTOR INCOHERENT (1)
8	8	SELECTOR NOT CONNECTED (1)
9	9	WAITING FOR RESTART (1)
10	A	ERROR DIG-OUT (1)
11	B	REDUNDANT INPUT KO (1)
12	C	DIAGNOSTIC DIG-OUT OK (1)
13	D	OUTPUT CONNECTED TO OTHER INPUTS (1)
14	E	OUTPUT OK BUT INPUT CONNECTED TO 24V (1)
15	F	SHORT CIRCUIT BETWEEN PHOTOCELL TEST AND PHOTOCELL1 INPUT
16	10	PHOTOCELL NOT RESPONDING (1)
17	11	SHORT CIRCUIT BETWEEN PHOTOCELLS (1)
18	12	SAFETY MAT NOT CONNECETED (1)
19	13	OUTPUT NOT CONGRUENT TO FEEDBACK (1)
20	14	CONNESSIONE INCORRECT CONNECTION (1)
21	15	OUTPUT STUCKED (1)
22	16	REDUNDANT DIG-OUT KO (1)
23	17	MV2: MISSING PROXY RESOURCE (1)
24	18	MV2: MISSING ENCODER RESOURCE (1)
25	19	MV2: MISSING PROXY ENCODER RESOURCE LEGACY (1)
26	1A	MV2: PROXY1 PROXY2 RESOURCE MISSING LEGACY (1)
27	1B	MV2: ENCODER1 ENCODER2 RESOURCE MISSING LEGACY (1)
28	1C	MV2: FREQUENCY1 CONGRUENCE ERROR
29	1D	MV2: ENCODER POWER SUPPLY MISSING (1)
30	1E	MV2: ENCODER 1 ANOMALY
31	1F	MV2: THRESHOLD SELECTION ERROR (1)
32	20	MV2: ENCODER1 OVERFREQUENCY
33	21	MV2: ENCODER2 OVERFREQUENCY
34	22	MV2: PROXY1 OVERFREQUENCY
35	23	MV2: PROXY2 OVERFREQUENCY
36	24	MV2: PROXY 4-WIRE ANOMALY
37	25	MV2: PROXY 4-WIRE ANOMALY

CODE		MEANING
DECIMAL	HEX	
38	26	MV2: PROXY2 RESOURCE MISSING
39	27	MV2: PROXY ANOMALY INTERLEAVED
40	28	MA4: READING OUTSIDE THRESHOLD INF (1)
41	29	MA4: READING OUTSIDE THRESHOLD UP (1)
42	2A	MA4: SENSOR NOT CONNECTED (1)
43	2B	MA4: OUTPUT OVERLOAD (1)
44	2C	MA4: INPUT OVERLOAD (1)
45	2D	MA4: SPARE1
46	2E	MA4: SPARE2
47	2F	MA4: SPARE3
48	30	MA4: SPARE4
49	31	MA4: SPARE5
50	32	MA4: SPARE6
51	33	MA4: SPARE7
52	34	MA4: SPARE8
53	35	MA4: DOUBLE MISMATCH OUTSIDE INF (1)
54	36	MA4: DOUBLE READING1 OUTSIDE THRESHOLD INF (1)
55	37	MA4: DOUBLE READING2 OUTSIDE THRESHOLD INF (1)
56	38	MA4: DOUBLE READING1 OUTSIDE THRESHOLD SUP (1)
57	39	MA4: DOUBLE READING2 OUTSIDE THRESHOLD SUP (1)
58	3A	MA4: DOUBLE SENSOR1 NOT CONNECTED (1)
59	3B	MA4: DOUBLE SENSOR2 NOT CONNECTED (1)
60	3C	MA4: DOUBLE OUTPUT1 OVERLOAD (1)
61	3D	MA4: DOUBLE OUTPUT2 OVERLOAD (1)
62	3E	MA4: DOUBLE INPUT1 OVERLOAD (1)
63	3F	MA4: DOUBLE INPUT2 OVERLOAD(1)
64	40	MA4: DOUBLE SPARE (1)
65	41	MA4: DOUBLE SPARE (2)
66	42	MA4: DOUBLE SPARE (3)
67	43	MA4: DOUBLE SPARE (4)
68	44	MA4: DOUBLE SPARE (5)
69	45	MA4: DOUBLE SPARE (6)
70	46	MA4: DOUBLE SPARE (7)
71	47	MA4: DIAGNOSTIC OK
72	48	MV2: RESOURCE ENCODER2 MISSING
73	49	MV2: ANOMALY ENCODER (2)
74	4A	MV2: POWER SUPPLY ENCODER2 MISSING
75	4B	UNKNOWN RFID LINE
76	4C	RFID LINE ERROR COUNTING



## OUTPUT STATUS diagnostics

CODE		MEANING
DECIMAL	HEX	
0	1	DIAGNOSTICS STATUS OK
1	1	PROFET OVERLOAD
2	2	PROFET POWER SUPPLY MISSING
3	3	STATUS ENABLE MISSING

## OSSD OUTPUT diagnostics

CODE		MEANING
DECIMAL	HEX	
0	0	DIAGNOSTICS OSSD OK
1	1	ENABLE MISSING
2	2	WAITING OSSD RESTART
3	3	FEEDBACK K1/K2 MISSING
4	4	WAITING OTHER MICROCONTROLLER
5	5	POWER SUPPLY OSSD MISSING
6	6	EXCEEDED MAXIMUM RESTART TIME
7	7	EXTERNAL FEEDBACK K1/K2 NOT CONGRUENT
8	8	WAITING FEEDBACK K1/K2
9	9	OVERLOAD OSSD OUTPUT
10	A	OSSD WITH 24V LOAD