

Diagnostics and Troubleshooting

What's in This Chapter

Warning Codes	617
Error Codes	620
FAQ	688

Overview

This chapter describes the various types of diagnostics and provides troubleshooting assistance.

 **DANGER**

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Read and understand the instructions in **Safety Information** chapter before performing any procedure in this chapter.

Failure to follow these instructions will result in death or serious injury.

Warning Codes

Warning Codes

List of Available Warnings Messages

Setting	Code	Description
[No Warning stored]	<i>n o A</i>	No warning stored
[Fallback Frequency]	<i>F r F</i>	Reaction on event: Fallback frequency
[Speed Maintained]	<i>r L S</i>	Reaction on event: Speed maintained
[Type of stop]	<i>S t t</i>	Reaction on event: Stop following [Type of stop] <i>S t t</i> without triggering an error
[Ref Frequency Warning]	<i>S r A</i>	Frequency reference reached
[Life Cycle Warn 1]	<i>L C A 1</i>	Life cycle warning 1
[Life Cycle Warn 2]	<i>L C A 2</i>	Life cycle warning 2
[Dry Run Warning]	<i>d r y A</i>	Dry run warning , page 388
[LowFlow Warning]	<i>L F A</i>	Low flow warning , page 392
[High Flow Warning]	<i>H F P A</i>	High flow warning , page 409
[InPress Warning]	<i>i P P A</i>	Inlet pressure monitoring warning , page 399
[Low OutPres Warn]	<i>o P L A</i>	Low outlet pressure warning , page 404
[High OutPres Warn]	<i>o P H A</i>	High outlet pressure warning , page 404
[PumpCycle warning]	<i>P C P A</i>	Pumpcycle monitoring warning , page 378
[Anti-Jam Warning]	<i>J A n A</i>	Anti-jam warning , page 381
[Pump Low Flow]	<i>P L F A</i>	Pump low flow warning , page 392
[LowPres Warning]	<i>L P A</i>	Low pressure warning
[Flow Limit activated]	<i>F S A</i>	Flow limitation function is active , page 375
[PID error Warning]	<i>P E E</i>	PID error warning , page 321
[PID Feedback Warn]	<i>P F A</i>	PID feedback warning , page 313
[PID High Fdbck Warn]	<i>P F A H</i>	PID feedback high threshold reached , page 313
[PID Low Fdbck Warn]	<i>P F A L</i>	PID feedback low threshold reached , page 313
[Regulation Warning]	<i>P i s H</i>	PID feedback monitoring warning , page 339
[AI2 Th Warning]	<i>t P 2 A</i>	AI2 Thermal warning , page 169
[AI3 Th Warning]	<i>t P 3 A</i>	AI3 Thermal warning , page 169
[AI4 Th Warning]	<i>t P 4 A</i>	AI4 Thermal warning , page 169
[AI5 Th Warning]	<i>t P 5 A</i>	AI5 Thermal warning , page 169
[AI1 4-20 Loss Warning]	<i>A P 1</i>	AI1 4-20 mA loss warning , page 534
[AI2 4-20 Loss Warning]	<i>A P 2</i>	AI2 4-20 mA loss warning , page 534
[AI3 4-20 Loss Warning]	<i>A P 3</i>	AI3 4-20 mA loss warning , page 534
[AI4 4-20 Loss Warning]	<i>A P 4</i>	AI4 4-20 mA loss warning , page 534
[AI5 4-20 Loss Warning]	<i>A P 5</i>	AI5 4-20 mA loss warning , page 534
[Drive Thermal Warning]	<i>t H A</i>	Drive overheating warning
[IGBT Thermal Warning]	<i>t J A</i>	IGBT thermal state warning
[Fan Counter Warning]	<i>F C t A</i>	Fan counter speed warning , page 561
[Fan Feedback Warning]	<i>F F d A</i>	Fan feedback warning , page 561
[Ext. Error Warning]	<i>E F A</i>	External error warning , page 527

Setting	Code	Description
[Undervoltage Warning]	u S R	Undervoltage warning , page 544
[Preventive UnderV Active]	u P R	Controlled stop threshold is reached , page 544
[Forced Run]	E r n	Drive in forced run
[Mot Freq High Thd]	F E R	Motor frequency high threshold 1 reached , page 445
[Mot Freq Low Thd]	F E R L	Motor frequency low threshold 1 reached , page 445
[Mot Freq Low Thd 2]	F 2 R L	Motor frequency low threshold 2 reached , page 445
[High Speed Reached]	F L R	High speed reached warning
[Ref Freq High Thd reached]	r E R H	Reference frequency high threshold reached , page 446
[Ref Freq Low Thd reached]	r E R L	Reference frequency low threshold reached , page 446
[2nd Freq Thd Reached]	F 2 R	Motor frequency high threshold 2 reached , page 446
[Current Thd Reached]	C E R	Motor current high threshold reached , page 445
[Low Current Reached]	C E R L	Motor current low threshold reached , page 445
[High Torque Warning]	E E H R	High torque threshold reached , page 446
[Low Torque Warning]	E E L R	Low torque threshold reached , page 446
[Process Undld Warn]	u L R	Process underload warning , page 467
[Process Overload Warning]	o L R	Overload warning , page 470
[Drv Therm Thd reached]	E R d	Drive thermal threshold reached
[Motor Therm Thd reached]	E S R	Motor thermal threshold reached , page 446
[Power High Threshold]	P E H R	Power high threshold reached , page 79
[Power Low Threshold]	P E H L	Power low threshold reached , page 79
[Cust Warning 1]	C R S 1	Customer warning 1 active , page 558
[Cust Warning 2]	C R S 2	Customer warning 2 active , page 559
[Cust Warning 3]	C R S 3	Customer warning 3 active
[Cust Warning 4]	C R S 4	Customer warning 4 active
[Cust Warning 5]	C R S 5	Customer warning 5 active
[AFE Mains Undervoltage]	u r R	AFE mains undervoltage
[Power Cons Warning]	P o W d	Power consumption warning
[Switch OutPres Warn]	o P S R	Outlet pressure high switch warning , page 404
[MP Capacity Warn]	MP C R	Multipump available capacity warning , page 253
[Lead Pump Warn]	MP L R	Lead pump not available warning , page 253
[High Level Warning]	L C H R	High level warning , page 287
[Low Level Warning]	L C L R	Low level warning , page 287
[Level Switch Warning]	L C W R	Level switch warning , page 287
[MonitorCircuit A Warn]	, W R	Monitoring circuit A warning
[MonitorCircuit B Warn]	, W b	Monitoring circuit B warning
[MonitorCircuit C Warn]	, W C	Monitoring circuit C warning
[MonitorCircuit D Warn]	, W d	Monitoring circuit D warning
[CabinetCircuit A Warn]	C W R	Cabinet circuit A warning , page 563
[CabinetCircuit B Warn]	C W b	Cabinet circuit B warning , page 564
[CabinetCircuit C Warn]	C W C	Cabinet circuit C warning , page 564
[MotorWinding A Warn]	E W R	Motor winding A warning , page 565
[MotorWinding B Warn]	E W b	Motor winding B warning , page 566

Setting	Code	Description
[MotorBearing A Warn]	<i>E W C</i>	Motor bearing A warning , page 566
[MotorBearing B Warn]	<i>E W d</i>	Motor bearing B warning , page 567
[Circuit Breaker Warn]	<i>C b W</i>	Circuit breaker warning , page 568
[Cab I/O 24V Warn]	<i>P 2 4 C</i>	Cabinet I/O 24V missing warning
[AFE Motor Limitation]	<i>C L , n</i>	AFE motor limitation , page 466
[AFE Generator Limitation]	<i>C L , G</i>	AFE regen limitation , page 466
[AFE Sensor thermal state]	<i>E H S R</i>	AFE thermal state warning
[AFE IGBT thermal state]	<i>E H J R</i>	AFE IGBT thermal warning
[Cabinet Fan Fdbck Warn]	<i>F F C R</i>	Cabinet fan feedback warning , page 561
[Cabinet Fan Counter Warn]	<i>F C C R</i>	Cabinet fan counter warning , page 561
[Cabinet Overheat Warn]	<i>C H R</i>	Cabinet overheat warning , page 552
[CMI Jumper Warn]	<i>C n , J</i>	CMI jumper warning
[AFE Fan Counter Warn]	<i>F C b R</i>	AFE fan counter warning , page 561
[AFE Fan Fdbck Warn]	<i>F F b R</i>	AFE fan feedback warning , page 561
[M/P Device Warn]	<i>n P d R</i>	Multipump device warning , page 253
[Temp Sens AI2 Warn]	<i>E S 2 R</i>	Temperature sensor AI2 warning (open circuit)
[Temp Sens AI3 Warn]	<i>E S 3 R</i>	Temperature sensor AI3 warning (open circuit)
[Temp Sens AI4 Warn]	<i>E S 4 R</i>	Temperature sensor AI4 warning (open circuit)
[Temp Sens AI5 Warn]	<i>E S 5 R</i>	Temperature sensor AI5 warning (open circuit)
[DC Bus Ripple Warn]	<i>d C r W</i>	DC Bus Ripple Warning , page 195
[Ethernet Internal Warning]	<i>, n W n</i>	Ethernet Internal Warning
[Cooling Pump Warn]	<i>C o P R</i>	Cooling pump warning resulting from the detection of an error during pump operation or resulting from [Pump diagnostics] <i>C P E</i> (related to ATV9L0).
[Module Overheat]	<i>n o R</i>	Module overheating warning resulting from the ambient temperature monitoring
[Fallback Channel]	<i>R F F L</i>	Automatic fallback behavior activated after a fieldbus communication interruption , page 543
[ON Lock Warning]	<i>L K o n</i>	ON lock warning resulting from an external device not ready.

Error Codes

Overview

Clearing the Detected Error

This table presents the steps to follow if intervention on the drive system is required:

Step	Action
1	Disconnect all power, including external control power that may be present.
2	Lock all power disconnects in the open position.
3	Wait 15 minutes to allow the DC bus capacitors to discharge (the drive LEDs are not indicators of the absence of DC bus voltage).
4	Measure the voltage of the DC bus between the PA/+ and PC/- terminals to ensure that the voltage is less than 42 Vdc.
5	If the DC bus capacitors do not discharge completely, contact your local Schneider Electric representative. Do not repair or operate the drive.
6	Find and correct the cause of the detected error.
7	Restore power to the drive to confirm that the detected error has been rectified.

After the cause has been removed, the detected error can be cleared by:

- Switching off the drive.
- Using the **[Product Restart]** $r P$ parameter.
- Using the digital input or the control bit assigned to **[Prod Restart Assign]** $r P R$.
- Using the **[Auto Fault Reset]** $R E r$ - function.
- A digital input or control bit set to the **[Fault reset]** $r S E$ - function.
 - For **[Fault Reset Assign]** $r S F$ and **[Extended Fault Reset]** $H r C F$ refer to **[Fault reset]** $r S E$ - Menu, page 519.
- Pressing the **STOP/RESET** key on the Graphic Display Terminal depending on the setting of **[Stop Key Enable]** $P S E$.

How To Clear the Error Code?

The following table summarizes the possibilities to clear a detected error after the cause has been removed:

How to clear the error code after the cause has been removed	List of the cleared error
• Switch off the drive. • Use the [Product Restart] $r P$ parameter. • Use the digital input or the control bit assigned to [Prod Restart Assign] $r P R$.	All detected error.
• As soon as its cause has been removed.	CFF, CF1, CF12, CF13, CSF, FWER, HCF, PGLF, PHF, URF, USF
• Use the digital input or the control bit assigned to [Fault Reset Assign] $r S F$. • Pressing the RESET button on the HMI panel	ACF1, ACF2, ACF3, ASF, MFF, SOF, TNF

How to clear the error code after the cause has been removed	List of the cleared error
- Use the digital input or the control bit assigned to [Fault Reset Assign] $r S F$. - Pressing the RESET button on the HMI panel - Use the [Auto Fault Reset] $R E r$ - function.	CFA, CFB, CFC, CHF, CNF, COF, COPF, DRYF, EPF1, EPF2, ETHF, FCF2, FDR1, FDR2, FFDF, HFPPF, IDLF, IFA, IFB, IFC, IFD, IHF, INF9, INFB, INFV, IPPF, JAMF, LCF, LCHF, LCLF, LFF1, LFF2, LFF3, LFF4, LFF5, LKON, MDLF, MOF, MPDF, MPLF, OBF, OBF2, OHF, OLC, OLF, OPF1, OPF2, OPHF, OPLF, OSF, P24C, PCPF, PFMF, PLFF, SCF4, SCF5, SLF1, SLF2, SLF3, STF, T2CF, T3CF, T4CF, T5CF, TFA, TFB, TFC, TFD, TH2F, TH3F, TH4F, TH5F, TJF, TJF2, ULF
If [Fault Reset Assign] $H r F L$ is set to $Y E S$: - Use the digital input or the control bit assigned to [Fault Reset Assign] $r S F$, - Press the STOP/RESET key on the Graphic Display Terminal depending on the setting of [Stop Key Enable] $P S L$.	CRF1, INFD, SCF1

[AFE DC-Caps Error] *ACFI***Probable Cause**

AFE DC-capacitors error: DC-capacitors overcurrent.

- Low mains voltage for too long.
- Mains voltage is on a low limit, the modulation rate of the AFE increases to help protect the DC link capacitors the **[AFE Modulation Rate Error]** *ACFI* is triggered.

**Remedy**

- Verify mains voltage.
- Verify parameter setting for mains voltage.

**Clearing the Error Code**

This detected error can be cleared manually with the **[Fault Reset Assign]** *r5F* parameter after the cause has been removed.

[AFE Current Control Error] *ACF2***Probable Cause**

Mains voltage interruption.

**Remedy**

- Verify mains voltage.
- Reduce number of voltage drop-downs.

**Clearing the Error Code**

This detected error can be cleared manually with the **[Fault Reset Assign]** *r5F* parameter after the cause has been removed.

[AFE Line Filter Error] $r 5 F$ **Probable Cause**

Mains voltage drops during generator operation.

**Remedy**

Verify mains voltage.

**Clearing the Error Code**

This detected error can be cleared manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[Angle error] $r 5 F$ **Probable Cause**

This error is triggered during the phase-shift angle measurement if the motor phase is disconnected or if the motor inductance is too high.

**Remedy**

- Verify the motor phases and the maximum current allowed by the drive.

**Clearing the Error Code**

This detected error can be cleared manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[Circuit Breaker Error] L b F**Probable Cause**

The DC bus voltage level is not correct compared to the circuit breaker logic control (start or stop pulse) after the configured timeout **[Mains V. time out] L C E**.

**Remedy**

- Verify the circuit breaker logic control (pulse time for start and stop).
- Verify the mechanical state of the circuit breaker.

**Clearing the Error Code**

This detected error requires a power reset.

[CabinetCircuit A Error] L F R**Probable Cause**

The monitoring function has detected an error. The digital input assigned to **[CabinetCircuit A Assign] L F R R** is active when the detected error duration is longer than **[CabinetCircuit A Delay] F d R**.

**Remedy**

- Identify the cause of detection.
- Verify the connected device (door switch, thermal switch,...) and its wiring.
- Verify the **[CabinetCircuit A Assign] L F R R** parameter assignment.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r S F** parameter after the cause has been removed.

[CabinetCircuit B Error] $\mathcal{L} F B$



Probable Cause

The monitoring function has detected an error. The digital input assigned to **[CabinetCircuit B Assign]** $\mathcal{L} F B$ is active when the detected error duration is longer than **[CabinetCircuit B Delay]** $F d b$.



Remedy

- Identify the cause of detection.
- Verify the connected device (door switch, thermal switch,...) and its wiring.
- Verify the **[CabinetCircuit B Assign]** $\mathcal{L} F B$ parameter assignment.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $R E r$ or manually with the **[Fault Reset Assign]** $r 5 F$ parameter after the cause has been removed.

[CabinetCircuit C Error] $\mathcal{L} F \mathcal{L}$



Probable Cause

The monitoring function has detected an error. The digital input assigned to **[CabinetCircuit C Assign]** $\mathcal{L} F \mathcal{L}$ is active when the detected error duration is longer than **[CabinetCircuit C Delay]** $F d \mathcal{L}$.



Remedy

- Identify the cause of detection.
- Verify the connected device (door switch, thermal switch,...) and its wiring.
- Verify the **[CabinetCircuit C Assign]** $\mathcal{L} F \mathcal{L}$ parameter assignment.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $R E r$ or manually with the **[Fault Reset Assign]** $r 5 F$ parameter after the cause has been removed.

[Incorrect Configuration] [F F**Probable Cause**

- Option module changed or removed.
- Control block replaced by a control block configured on a drive with a different rating.
- The current configuration is inconsistent.

**Remedy**

- Verify that there is no detected error on the option module.
- In the event of the control block being changed deliberately, see the remarks below.
- Return to factory settings or retrieve the backup configuration if it is valid.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Invalid Configuration] [F ,**Probable Cause**

Invalid configuration. The configuration loaded in the drive via the commissioning tool or fieldbus is inconsistent.

**Remedy**

- Verify the loaded configuration.
- Load a valid configuration.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Conf Transfer Error] [F , 2]**Probable Cause**

- The configuration transfer to the drive was not successful or interrupted.
- The configuration loaded is not compatible with the drive.

**Remedy**

- Verify the configuration loaded previously.
- Load a compatible configuration.
- Use PC software commissioning tool to transfer a compatible configuration
- Perform a factory setting

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Pre-settings Transfer Error] [F , 3]**Probable Cause**

The configuration transfer to the drive was not successful or interrupted.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Cabinet Overheat Error] *L H F***Probable Cause**

The cabinet thermal switch is at active state, the cabinet fan(s) has been switched on but there is no fan feedback.

The digital inputs DI50 and DI51 of drives equipped with Cabinet IO are configured as cabinet temperature monitoring. If the enclosure thermo switch opens in case of over temperature, the **[Cabinet Overheat Error] *L H F*** is triggered.

This error can be triggered only in RUN state. On other state, the **[Cabinet Overheat Warn] *L H R*** is active.

**Remedy**

- Verify cabinet fan(s) and its wiring.
- Verify the temperature in the enclosure is not too high.
- Verify the setting of the thermoswitch (must be 60°C (140°F))

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] *R E r*** or manually with the **[Fault Reset Assign] *r S F*** parameter after the cause has been removed.

[Fieldbus Com Interrupt] *L n F***Probable Cause**

Communication interruption on fieldbus module.

This error is triggered when the communication between the fieldbus module and the master (PLC) is interrupted.

**Remedy**

- Verify the environment (electromagnetic compatibility).
- Verify the wiring.
- Verify the timeout.
- Replace the option module.
- Contact your local Schneider Electric representative

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] *R E r*** or manually with the **[Fault Reset Assign] *r S F*** parameter after the cause has been removed.

[CANopen Com Interrupt] $\mathcal{L} \square F$



Probable Cause

Communication interruption on the CANopen® fieldbus



Remedy

- Verify the communication fieldbus.
- Verify the timeout.
- Refer to the CANopen® user manual.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $R \mathcal{L} r$ or manually with the **[Fault Reset Assign]** $r \mathcal{S} F$ parameter after the cause has been removed.

[Cooling Pump Error] $\mathcal{L} \square P F$



Probable Cause

Cooling pump is not working.



Remedy

Contact your local Schneider Electric representative.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $R \mathcal{L} r$ or manually with the **[Fault Reset Assign]** $r \mathcal{S} F$ parameter after the cause has been removed.

[Precharge Capacitor] C r F I **Probable Cause**

- Charging circuit control detected error or charging resistor damaged.
- Supply mains too low.

**Remedy**

- Turn off the drive and then turn on again.
- Verify the internal connections.
- Verify the voltage and the parameters of **[Undervoltage handling] u 5 b** .
- Contact your local Schneider Electric representative

**Clearing the Error Code**

This detected error can be cleared manually with the **[Extended Fault Reset] H r F C** parameter enabled after the cause has been removed.

[DC Bus Ripple Error] d C r E **Probable Cause**

Persistent ripple observed on the DC bus or DC bus capacitors damaged.

**Remedy**

- Turn off the drive and then turn on again.
- Verify correct behavior of the input filter.
- Verify the mains wirings.
- Verify the internal connections.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[AFE contactor fdbk error] [F F]**Probable Cause**

- The mains contactor feedback is inactive during DC Bus charging phase.
- The mains contactor feedback becomes inactive without mains phase loss detection while the drive is in operation (Ready or Run state).

**Remedy**

- Verify the feedback circuit.
- Verify the mechanical state of the mains contactor.

**Clearing the Error Code**

This detected error requires a power reset.

[Channel Switch Error] [S F]**Probable Cause**

Switch to an invalid channel.

**Remedy**

Verify the function parameters.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Dry Run Error] *d r y F*



Probable Cause

The dry run monitoring function has detected an error.

NOTE: After the error has been triggered, even if the detected error has been cleared, it is not possible to restart the pump before the end of the **[DryRun Restart Delay] *d r y r***.



Remedy

- Verify that the pump is well primed.
- Verify that there is no air leak in the suction line.
- Verify the settings of the monitoring function.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset] *A F r*** or manually with the **[Fault Reset Assign] *r S F*** parameter after the cause has been removed.

[EEPROM Control] *E E F I*



Probable Cause

An error of the internal memory of the control block has been detected.



Remedy

- Verify the environment (electromagnetic compatibility).
- Switch off the product.
- Return to factory settings.
- Contact your local Schneider Electric representative.



Clearing the Error Code

This detected error requires a power reset.

[EEPROM Power] E E F 2**Probable Cause**

An error of the internal memory of the power board has been detected.

**Remedy**

- Verify the environment (electromagnetic compatibility).
- Switch off the product.
- Return to factory settings.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[External Error] E P F 1**Probable Cause**

- Event triggered by an external device, depending on user.
- An external error has been triggered via Embedded Ethernet.
- The error is caused by an external circuit.
- Ethernet configuration file is corrupted.

**Remedy**

- Remove the cause of the external error.
- Perform a factory setting of the Ethernet configuration or modify the **IP Mode**

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] A E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Fieldbus Error] $E P F 2$ **Probable Cause**

Event triggered by an external device, depending on user.

**Remedy**

Remove the cause of the external error.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** $H E r$ or manually with the **[Fault Reset Assign]** $r 5 F$ parameter after the cause has been removed.

[Embd Eth Com Interrupt] $E L H F$ **Probable Cause**

Communication interruption on the Ethernet IP ModbusTCP bus.

**Remedy**

- Verify the communication bus.
- Refer to the Ethernet user manual.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** $H E r$ or manually with the **[Fault Reset Assign]** $r 5 F$ parameter after the cause has been removed.

[Out Contact Closed Error] F C F I**Probable Cause**

The output contactor remains closed although the opening conditions have been met.

**Remedy**

- Verify the output contactor and its wiring.
- Verify the contactor feedback wiring.

**Clearing the Error Code**

This detected error requires a power reset.

[Out Contact Opened Error] F C F 2**Probable Cause**

The output contactor remains opened although the closing conditions have been met.

**Remedy**

Verify the output contactor and its wiring. Verify the contactor feedback wiring.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[FDR 1 Error] *F d r 1***Probable Cause**

- Embedded Ethernet FDR error
- Communication interruption between the drive and the PLC
- Configuration file incompatible, empty or invalid
- Drive rating not consistent with the configuration file

**Remedy**

- Verify the drive and PLC connection
- Verify the communication workload
- Restart the transfer of configuration file from drive to PLC

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] *A E r*** or manually with the **[Fault Reset Assign] *r 5 F*** parameter after the cause has been removed.

[FDR 2 Error] *F d r 2***Probable Cause**

- Ethernet fieldbus module FDR error
- Communication interruption between the drive and the PLC
- Configuration file incompatible, empty or corrupted
- Drive rating not consistent with the configuration file

**Remedy**

- Verify the drive and PLC connection
- Verify the communication workload
- Restart the transfer of configuration file from drive to PLC

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] *A E r*** or manually with the **[Fault Reset Assign] *r 5 F*** parameter after the cause has been removed.

[Fan Feedback Error] F F d F**Probable Cause**

Fan speed too low.

[Fan Feedback Warning] F F d R warning has been active for a time longer than 10 minutes.

**Remedy**

Replace the fan.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Firmware Update Error] F W E r**Probable Cause**

Firmware update function has detected an error.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Boards Compatibility] H C F**Probable Cause**

Hardware configuration error.

The **[Pairing password] P P** , parameter has been enabled and an option module has been changed.

**Remedy**

- Refit the original option module.
- Confirm the configuration by entering the **[Pairing password] P P** , if the module was changed deliberately.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[High Flow Error] H F P F**Probable Cause**

The high flow monitoring function has detected an error.

**Remedy**

- Verify that the system works in its flow capabilities.
- Verify that there is no pipe burst at the outlet of the system.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] F E r** or manually with the **[Fault Reset Assign] r S F** parameter after the cause has been removed.

[Egy Saving Exit Error] , d L F**Probable Cause**

The drive is not turned on even though **[Egy Saving Timeout] , d L E** has elapsed.

**Remedy**

- Verify the Supply Mains/contactor/drive wiring.
- Verify the timeout.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[MonitorCircuit A Error] , F R**Probable Cause**

The digital input assigned to **[MonitorCircuit A Assign] , F R R** is active for longer than **[MonitorCircuit A Delay] , F d R**.

**Remedy**

- Verify the connected device and its wiring.
- Verify the **[MonitorCircuit A Assign] , F R R** parameter assignment.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[MonitorCircuit B Error] , F B**Probable Cause**

The digital input assigned to **[MonitorCircuit B Assign] , F B** is active for longer than **[MonitorCircuit B Delay] , F d B**.

**Remedy**

- Verify the connected device and its wiring.
- Verify the **[MonitorCircuit B Assign] , F B** parameter assignment.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r S F** parameter after the cause has been removed.

[MonitorCircuit C Error] , F C**Probable Cause**

The digital input assigned to **[MonitorCircuit C Assign] , F C** is active for longer than **[MonitorCircuit C Delay] , F d C**.

**Remedy**

- Verify the connected device and its wiring.
- Verify the **[MonitorCircuit C Assign] , F C** parameter assignment.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r S F** parameter after the cause has been removed.

[MonitorCircuit D Error] , F d



Probable Cause

The digital input assigned to **[MonitorCircuit D Assign]** , F R d is active for longer than **[MonitorCircuit D Delay]** , F d d.



Remedy

- Verify the connected device and its wiring.
- Verify the **[MonitorCircuit D Assign]** , F R d parameter assignment.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** R E r or manually with the **[Fault Reset Assign]** r 5 F parameter after the cause has been removed.

[Input Overheating] , H F



Probable Cause

The AFE brick temperature is too high.



Remedy

Verify the drive ventilation and the ambient temperature. Wait for the drive to cool down before restarting.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** R E r or manually with the **[Fault Reset Assign]** r 5 F parameter after the cause has been removed.

[Internal Link Error] I L F**Probable Cause**

Communication interruption between option module and the drive.

**Remedy**

- Verify the environment (electromagnetic compatibility).
- Verify the connections.
- Replace the option module.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 0] I n F 0**Probable Cause**

- Communication interruption between microprocessors of the control board.
- The power board rating is not valid.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 1] INF 1**Probable Cause**

The power board rating is not valid.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 2] INF 2**Probable Cause**

The power board is incompatible with the control block software.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 3] INF 3**Probable Cause**

Internal communication detected error.

**Remedy**

- Verify the wiring on drive control terminals (internal 10V supply for analog inputs overloaded).
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 4] INF 4**Probable Cause**

Internal data inconsistent.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 6] INF 6**Probable Cause**

- The option module installed in the drive is not recognized.
- The removable control terminal modules (if existing) are not present or not recognized.
- The embedded Ethernet adapter is not recognized.

**Remedy**

- Verify the catalog number and compatibility of the option module.
- Plug the removable control terminal modules after the drive has been switched off.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 7] INF 7**Probable Cause**

Communication interruption with CPLD component of Control board.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 8] INF 8**Probable Cause**

The internal power switching supply is not correct.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 9] INF 9**Probable Cause**

An error on the current circuit measurement has been detected.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** *Pr 1* or manually with the **[Fault Reset Assign]** *Pr 5 F* parameter after the cause has been removed.

[Internal Error 10] *i n F R***Probable Cause**

The input stage is not operating correctly.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 11] *i n F b***Probable Cause**

The internal drive thermal sensor is not operating correctly.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** *R E r* or manually with the **[Fault Reset Assign]** *r 5 F* parameter after the cause has been removed.

[Internal Error 12] *InfC*



Probable Cause

Internal current supply error.



Remedy

Contact your local Schneider Electric representative.



Clearing the Error Code

This detected error requires a power reset.

[Internal Error 13] *Inf d*



Probable Cause

Differential current deviation.



Remedy

Verify connection of DigiLink cable (GG45).

Contact your local Schneider Electric representative.



Clearing the Error Code

This detected error can be cleared manually with the **[Extended Fault Reset]** *HrFC* parameter enabled after the cause has been removed.

[Internal Error 14] *INF E***Probable Cause**

Internal microprocessor detected error.

**Remedy**

- Verify that the error code can be cleared.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 15] *INF F***Probable Cause**

Serial memory flash format error.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 16] INF6**Probable Cause**

Communication interruption or internal error of output relays option module

**Remedy**

- Verify that the option module is correctly connected to the slot
- Replace the option module.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 17] INF7**Probable Cause**

Communication interruption with the Extension module of digital & analog I/O or internal error of the Extension module of digital & analog I/O.

**Remedy**

- Verify that the option module is correctly connected to the slot
- Replace the option module.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 20] *INFK***Probable Cause**

Option module interface board error.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 21] *INFL***Probable Cause**

Internal Real Time Clock error. It could be a communication error between the keypad and the drive or a clock oscillator start error.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 22] *INFn*



Probable Cause

An error on the embedded Ethernet adapter has been detected.
Unstability of external 24 Vdc supply.



Remedy

Verify the connection to the Ethernet port.
Verify the 24 Vdc stability.
Contact your local Schneider Electric representative.



Clearing the Error Code

This detected error requires a power reset.

[Internal Error 23] *INFn*



Probable Cause

A communication interruption between the control block and AFE or BU bricks has been detected.



Remedy

Contact your local Schneider Electric representative.



Clearing the Error Code

This detected error requires a power reset.

[Internal Error 25] *INF P***Probable Cause**

Incompatibility between Control Board hardware version and firmware version.

**Remedy**

- Update the firmware package.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 27] *INF r***Probable Cause**

Diagnostics in CPLD have detected an error.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 28] *INF5*



Probable Cause

An error on the AFE brick has been detected.



Remedy

Contact your local Schneider Electric representative.



Clearing the Error Code

This detected error requires a power reset.

[Internal Error 29] *INF6*



Probable Cause

An error on the power unit / inverter brick has been detected.



Remedy

Contact your local Schneider Electric representative.



Clearing the Error Code

This detected error requires a power reset.

[Internal Error 30] *i n F u***Probable Cause**

An error on the rectifier brick has been detected or an **[Input phase loss] *P H F*** error has been triggered when the DC bus is charged.

**Remedy**

Turn off the drive and then turn on again.

If **[Input phase loss] *P H F*** error code replaces **[Internal Error 30] *i n F u***, refer to the instructions of **[Input phase loss] *P H F*** error, page 672 otherwise contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Internal Error 31] *i n F V***Probable Cause**

An error on the brick architecture has been detected (brick unavailable).

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] *R E r*** or manually with the **[Fault Reset Assign] *r 5 F*** parameter after the cause has been removed.

[Inlet Pressure Error] *IPPF***Probable Cause**

The inlet pressure monitoring function has detected an error.

**Remedy**

- Search for a possible cause of low pressure at the inlet of system.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] PF** or manually with the **[Fault Reset Assign] SF** parameter after the cause has been removed.

[Anti Jam Error] *JANF***Probable Cause**

The Anti-Jam monitoring function has exceeded the maximum number of sequences allowed in the time window.

**Remedy**

- Search for a clogging substance in the impeller.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] PF** or manually with the **[Fault Reset Assign] SF** parameter after the cause has been removed.

[Input Contactor] L L F



Probable Cause

The drive is not switched on even though **[Mains V. time out] L L L** timeout has elapsed.



Remedy

- Verify the input contactor and its wiring.
- Verify the **[Mains V. time out] L L L** timeout.
- Verify the supply mains/contactor/drive wiring.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset] R L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[High Level Error] L L H F



Probable Cause

The maximum level switch is active during filling process.



Remedy

- Verify the parameter **[Max Level Switch Assign] L L W H**.
- Verify the state of the corresponding drive digital input and its wiring.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset] R L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Low Level Error] L L L F**Probable Cause**

The minimum level switch is active during emptying process.

**Remedy**

- Verify the parameter **[Min Level Switch Assign] L L W L**.
- Verify the state of the corresponding drive digital input and its wiring.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] H L r** or manually with the **[Fault Reset Assign] r S F** parameter after the cause has been removed.

[AI1 4-20mA loss] L F F I**Probable Cause**

Loss of the 4-20 mA on analog input AI1.

This error is triggered when the measured current is below 2 mA.

**Remedy**

- Verify the connection on the analog inputs.
- Verify the setting of **[AI1 4-20mA loss] L F L I** parameter.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] H L r** or manually with the **[Fault Reset Assign] r S F** parameter after the cause has been removed.

[AI2 4-20mA loss] L F F 2**Probable Cause**

Loss of the 4-20 mA on analog input AI2.

This error is triggered when the measured current is below 2 mA.

**Remedy**

- Verify the connection on the analog inputs.
- Verify the setting of **[AI2 4-20mA loss] L F L 2** parameter.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[AI3 4-20mA loss] L F F 3**Probable Cause**

Loss of the 4-20 mA on analog input AI3.

This error is triggered when the measured current is below 2 mA.

**Remedy**

- Verify the connection on the analog inputs.
- Verify the setting of **[AI3 4-20mA loss] L F L 3** parameter.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[AI4 4-20mA loss] L F F 4**Probable Cause**

Loss of the 4-20 mA on analog input AI4.

This error is triggered when the measured current is below 2mA.

**Remedy**

- Verify the connection on the analog inputs.
- Verify the setting of **[AI4 4-20mA loss] L F L 4** parameter.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] F L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[AI5 4-20mA loss] L F F 5**Probable Cause**

Loss of the 4-20 mA on analog input AI5.

This error is triggered when the measured current is below 2 mA.

**Remedy**

- Verify the connection on the analog inputs.
- Verify the setting of **[AI5 4-20mA loss] L F L 5** parameter.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] F L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[ON Lock Error] *L K 0 n***Probable Cause**

External device not ready.

**Remedy**

Verify external device assigned to ON lock input.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] *R E r*** or manually with the **[Fault Reset Assign] *r 5 F*** parameter after the cause has been removed.

[MultiDrive Link Error] *n d L F***Probable Cause**

- The communication has been interrupted while running.
- The function has detected an inconsistency in the system configuration.

**Remedy**

- Check the communication network.
- Check the configuration of the multi-drive link function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] *R E r*** or manually with the **[Fault Reset Assign] *r 5 F*** parameter after the cause has been removed.

[Mains Freq Out Of Range] $\Pi F F$ **Probable Cause**

[Mains Frequency] $F H L$ on the AFE brick is out of range.

**Remedy**

- Verify the mains frequency.

**Clearing the Error Code**

This detected error can be cleared manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[Module Overheat] $\Pi O F$ **Probable Cause**

Cabinet temperature too high.

[Module Overheat] $\Pi O H$ warning has been active for a time longer than 10 minutes.

**Remedy**

Verify the cooling of the cabinet.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] $H L r$** or manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[M/P Device Error] $\Pi P d F$



Probable Cause

A device on the MultiDrive Link architecture is missing.



Remedy

Check the communication network.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $R E r$ or manually with the **[Fault Reset Assign]** $r 5 F$ parameter after the cause has been removed.

[Lead Pump Error] $\Pi P L F$



Probable Cause

The selected lead pump is not available while in run.



Remedy

Verify the state of the corresponding drive digital input for the pump availability information (for example **[Pump 1 Ready Assign]** $\Pi P , 1$ for the pump 1).



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $R E r$ or manually with the **[Fault Reset Assign]** $r 5 F$ parameter after the cause has been removed.

[DC Bus Overvoltage] *a b F***Probable Cause**

- Deceleration time too short or driving load too high.
- Supply mains voltage too high.

**Remedy**

- Increase the deceleration time.
- Configure the **[Dec ramp adapt.]** *b r R* function if it is compatible with the application.
- Verify the supply mains voltage.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** *R E r* or manually with the **[Fault Reset Assign]** *r S F* parameter after the cause has been removed.

[AFE Bus unbalancing] *a b F 2***Probable Cause**

- AFE DC bus unbalancing.
- Supply mains voltage too high.
- Total generative power too high

**Remedy**

- Verify the supply mains voltage.
- Contact your local Schneider Electric representative

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** *R E r* or manually with the **[Fault Reset Assign]** *r S F* parameter after the cause has been removed.

[Overcurrent] ▢ L F**Probable Cause**

- Parameters in the **[Motor data] P 0 P** - menu are not correct.
- Inertia or load too high.
- Mechanical locking.

**Remedy**

- Verify the motor parameters.
- Verify the size of the motor/drive/load.
- Verify the state of the mechanism.
- Decrease **[Current limitation] L L 1**.
- Increase the switching frequency.

**Clearing the Error Code**

This detected error requires a power reset.

[Drive Overheating] ▢ H F**Probable Cause**

Drive temperature too high.

**Remedy**

Verify the motor load, the drive ventilation, and the ambient temperature. Wait for the drive to cool down before restarting.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R L 1** or manually with the **[Fault Reset Assign] 1 5 F** parameter after the cause has been removed.

[Process Overload] ▢ L L**Probable Cause**

Process overload.

**Remedy**

- Verify and remove the cause of the overload.
- Verify the parameters of the **[Process overload]** ▢ L d - function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** H E r or manually with the **[Fault Reset Assign]** r 5 F parameter after the cause has been removed.

[Motor Overload] ▢ L F**Probable Cause**

Triggered by excessive motor current.

**Remedy**

- Verify the setting of the motor thermal monitoring
- Verify the motor load. Wait for the motor to cool down before restarting
- Verify the setting of the following parameters:
 - **[Motor Th Current]** , L H
 - **[Motor Thermal Mode]** L H L
 - **[Motor Therm Thd]** L L d
 - **[MotorTemp ErrorResp]** ▢ L L

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** H E r or manually with the **[Fault Reset Assign]** r 5 F parameter after the cause has been removed.

[Single Output Phase Loss] ▯ P F 1**Probable Cause**

Loss of one phase at drive output.

**Remedy**

Verify the wiring from the drive to the motor.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Output Phase Loss] ▯ P F 2**Probable Cause**

- Motor not connected or motor power too low.
- Output contactor opened.
- Instantaneous instability in the motor current.

**Remedy**

- Verify the wiring from the drive to the motor.
- If an output contactor is being used, set **[OutPhaseLoss Assign] ▯ P L** to **[No Error Triggered] ▯ R C**.
- If the drive is connected to a low-power motor or not connected to a motor: In factory settings mode, motor phase loss detection is active **[Output Phase Loss] ▯ P L = [OPF Error Triggered] 9 E 5**. Deactivate motor phase loss detection **[Output Phase Loss] ▯ P L = [Function Inactive] n 0**.
- Verify and optimize the following parameters: **[IR compensation] u F r**, **[Nom Motor Voltage] u n 5** and **[Rated mot. current] n C r** and perform **[Autotuning] E u n**.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Out Pressure High] ▣ P H F**Probable Cause**

The outlet pressure monitoring function has detected a high-pressure error.

**Remedy**

- Search for a possible cause of high pressure at the outlet of system.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] P L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Out Pressure Low] ▣ P L F**Probable Cause**

The outlet pressure monitoring function has detected a low-pressure error.

**Remedy**

- Verify that there is no pipe broken at the outlet of the system.
- Search for a possible cause of low pressure at the outlet of system.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] P L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Supply Mains Overvoltage] P 5 F**Probable Cause**

- Supply mains voltage too high.
- Disturbed supply mains.

**Remedy**

Verify the supply mains voltage.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Cab I/O 24V Error] P 2 4 C**Probable Cause**

The input DI58 is used to monitor the 24V on input terminal. If it breaks down, all inputs are suppressed to avoid unintended error messages (from software version V1.6).

- DI58 cabinet I/O input is not wired to the internal terminal X231.
- DI58 is used by another cabinet I/O function.

**Remedy**

- Verify if the terminal X231 is wired to the cabinet I/O input DI58.
- If the DI58 is used by another cabinet function, it is needed to change the function to another free cabinet I/O input on the X220 terminals. Additionally, it is needed to adapt the parameter setting of the new selected input.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[PumpCycle Start Error] P C P F**Probable Cause**

The Pumpcycle monitoring function has exceeded the maximum number of start sequences allowed in the time window.

**Remedy**

- Search for a possible cause of repetitive start of system.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** *AE r* or manually with the **[Fault Reset Assign]** *r 5 F* parameter after the cause has been removed.

[PID Feedback Error] P F Π F**Probable Cause**

The PID feedback error was out of the allowed range around the set point during the time window.

**Remedy**

- Check for mechanical breakdown of pipes.
- Check for water leakage.
- Check for open discharge valve.
- Check for fire hydrant opened.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** *AE r* or manually with the **[Fault Reset Assign]** *r 5 F* parameter after the cause has been removed.

[Program Loading Error] P G L F**Probable Cause**

Verify that the error code can be cleared.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Program Running Error] P G r F**Probable Cause**

Verify that the error code can be cleared.

**Remedy**

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Input phase loss] P H F**Probable Cause**

- Drive incorrectly supplied or a tripped fused.
- One phase is unavailable.
- 3-phase Drive used on a single-phase supply mains.
- Unbalanced load.

**Remedy**

- Verify the power connection and the fuses.
- Use a 3-phase supply mains.
- Disable the detected error by **[Input phase loss] r P L = [No]** if single phase supply mains or DC bus supply is used.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Pump Low Flow Error] P L F F**Probable Cause**

The pump low flow monitoring function has detected an error.

**Remedy**

- Verify valve is closed on discharge.
- Pipes are damaged on the discharge.
- Search for a possible cause of low flow at the outlet of system.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] r F R** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Safety Function Error] S A F F**Probable Cause**

- Debounce time exceeded.
- Internal hardware error.
- STOA and STOB have a different status (high/low) for more than 1 second.

**Remedy**

- Verify the wiring of the digital inputs STOA and STOB.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Motor short circuit] S C F I**Probable Cause**

Short-circuit or grounding at the drive output.

**Remedy**

- Verify the cables connecting the drive to the motor, and the motor insulation.
- Adjust the switching frequency.
- Connect chokes in series with the motor.

**Clearing the Error Code**

This detected error can be cleared manually with the **[Extended Fault Reset]** *H r F C* parameter enabled after the cause has been removed.

[Ground Short Circuit] 5 L F 3**Probable Cause**

Significant ground leakage current at the drive output if several motors are connected in parallel.

**Remedy**

- Verify the cables connecting the drive to the motor, and the motor insulation.
- Adjust the switching frequency.
- Connect chokes in series with the motor.
- If you have long cables, verify the setting of **[Ground Fault Activation] 5 L F L**.

**Clearing the Error Code**

This detected error requires a power reset.

[IGBT Short Circuit] 5 L F 4**Probable Cause**

Power component detected error.

At product power-on, the IGBTs are tested for short circuit. Thereby an error (short circuit or interruption) has been detected on at least one IGBT. The time to check each transistor is between 1 and 10 µs.

**Remedy**

Verify the setting of **[Output Short Circuit Test] 5 L r L** parameter.

Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] 5 L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Motor Short Circuit] 5 C F 5**Probable Cause**

Short-circuit at drive output.

**Remedy**

- Verify the cables connecting the drive to the motor, and the motor's insulation.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[AFE ShortCircuit error] 5 C F 6**Probable Cause**

AFE rectifier IGBT short-circuit.

AFE over current due to power factor correction systems in the grid. Each switch of the capacitor produces over voltage in the mains which can lead an over current in the AFE.

**Remedy**

- Verify the mains voltage when the power factor correction system is changing the capacitive load. Install only power factor correction systems with integrated reactors
- Verify the cables connecting the AFE brick to the mains.
- Contact your local Schneider Electric representative.

**Clearing the Error Code**

This detected error requires a power reset.

[Modbus Com Interruption] 5 L F 1**Probable Cause**

Communication interruption on the Modbus port.

**Remedy**

- Verify the communication bus.
- Verify the timeout.
- Refer to the Modbus user manual.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] 8 E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[PC Com Interruption] 5 L F 2**Probable Cause**

Communication interruption with the commissioning software.

**Remedy**

- Verify the commissioning software connecting cable.
- Verify the timeout.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] 8 E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[HMI Com Interruption] 5 L F 3**Probable Cause**

Communication interruption with the Graphic display terminal.

This error is triggered when the command or reference value are given using the Graphic Display Terminal and if the communication is interrupted during more than 2 seconds.

**Remedy**

- Verify the Graphic display terminal connection.
- Verify the timeout.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Motor Overspeed] 5 o F**Probable Cause**

- Instability or driving load too high.
- If a downstream contactor is used, the contacts between the motor and the drive have not been closed before applying a Run command.
- The overspeed threshold (corresponding to 110 % of **[Max frequency] L F r**) has been reached.

**Remedy**

- Verify the motor parameter settings.
- Verify the size of the motor/drive/load.
- Verify and close the contacts between the motor and the drive before applying a Run command.
- Verify the consistency between **[Max frequency] L F r** and **[High Speed] H 5 P**. It is recommended to have at least **[Max frequency] L F r** $\geq 110\% \cdot$ **[High Speed] H 5 P**.

**Clearing the Error Code**

This detected error can be cleared manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[Security Files Corrupt] 5 P F C**Probable Cause**

Security files corrupted or missing.

**Remedy**

Switch off the product. Upon next switch-on, the security file will be created again and the information related to cybersecurity (such as channel policy and password) will be reset to its default value.

**Clearing the Error Code**

This detected error requires a power reset.

[Motor Stall Error] 5 L F**Probable Cause**

The stall monitoring function has detected an error.

The **[Motor Stall Error] 5 L F** is triggered on the following conditions:

- The output frequency is smaller than the stalling frequency **[Stall Frequency] 5 L P 3**
- The output current is higher than the stalling current **[Stall Current] 5 L P 2**
- For a duration longer than the stalling time **S[tall Max Time] 5 L P 1**.

**Remedy**

- Search for a mechanical blocking of the motor.
- Search for a possible cause of motor overload.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] P L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[AI2 Thermal Sensor Error] $\text{E } 2 \text{ C F}$



Probable Cause

The thermal sensor monitoring function has detected a thermal sensor error on analog input AI2:

- Open circuit, or
- Short circuit.



Remedy

- Verify the sensor and its wiring.
- Replace the sensor.
- Verify the setting of **[AI2 Type]** $\text{P } 2 \text{ E}$ parameter.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $\text{P } 5 \text{ F}$ or manually with the **[Fault Reset Assign]** $\text{P } 5 \text{ F}$ parameter after the cause has been removed.

[AI3 Thermal Sensor Error] $\text{E } 3 \text{ C F}$



Probable Cause

The thermal monitoring function has detected an error of the thermal sensor connected to the analog input AI3:

- Open circuit, or
- Short circuit



Remedy

- Verify the sensor and its wiring.
- Replace the sensor.
- Verify the setting of **[AI3 Type]** $\text{P } 3 \text{ E}$ parameter.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $\text{P } 5 \text{ F}$ or manually with the **[Fault Reset Assign]** $\text{P } 5 \text{ F}$ parameter after the cause has been removed.

[AI4 Thermal Sensor Error] E 4 C F**Probable Cause**

The thermal monitoring function has detected an error of the thermal sensor connected to the analog input AI4:

- Open circuit, or
- Short circuit

**Remedy**

- Verify the sensor and its wiring.
- Replace the sensor.
- Verify the setting of **[AI4 Type] R 4 E** parameter

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[AI5 Thermal Sensor Error] E 5 C F**Probable Cause**

The thermal monitoring function has detected an error of the thermal sensor connected to the analog input AI5:

- Open circuit, or
- Short circuit

**Remedy**

- Verify the sensor and its wiring.
- Replace the sensor.
- Verify the setting of **[AI5 Type] R 5 E** parameter.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] R E r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[MotorWinding A Error] $\mathcal{L} F R$ **Probable Cause**

The digital input assigned to **[MotorWinding A Assign] $\mathcal{L} F R R$** is active for longer than **[MotorWinding A Delay] $\mathcal{L} F d R$** .

**Remedy**

- Verify the connected device (motor winding thermal switch) and its wiring.
- Verify the motor load and the ambient temperature. Wait for the motor to cool down before restarting.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] $R \mathcal{L} r$** or manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[MotorWinding B Error] $\mathcal{L} F b$ **Probable Cause**

The digital input assigned to **[MotorWinding B Assign] $\mathcal{L} F R b$** is active for longer than **[MotorWinding B Delay] $\mathcal{L} F d b$** .

**Remedy**

- Verify the connected device (motor winding thermal switch) and its wiring.
- Verify the motor load and the ambient temperature. Wait for the motor to cool down before restarting.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] $R \mathcal{L} r$** or manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[MotorBearing A Error] E F C **Probable Cause**

The digital input assigned to **[MotorBearing A Assign] E F R C** is active for longer than **[MotorBearing A Delay] E F d C** .

**Remedy**

- Verify the connected device (motor winding thermal switch) and its wiring.
- Verify the motor load and the ambient temperature. Wait for the motor to cool down before restarting.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] $R E r$** or manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[MotorBearing B Error] E F d **Probable Cause**

The digital input assigned to **[MotorBearing B Assign] E F R d** is active for longer than **[MotorBearing B Delay] E F d d** .

**Remedy**

- Verify the connected device (motor winding thermal switch) and its wiring.
- Verify the motor load and the ambient temperature. Wait for the motor to cool down before restarting.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] $R E r$** or manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[AI2 Th Level Error] L H 2 F **Probable Cause**

The thermal sensor monitoring function has detected a high temperature error on analog input AI2.

**Remedy**

- Search for a possible cause of overheating.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] H L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[AI3 Th Level Error] L H 3 F **Probable Cause**

The thermal sensor monitoring function has detected a high temperature on analog input AI3.

**Remedy**

- Search for a possible cause of overheating.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] H L r** or manually with the **[Fault Reset Assign] r 5 F** parameter after the cause has been removed.

[AI4 Th Level Error] *LEH4F***Probable Cause**

The thermal sensor monitoring function has detected a high temperature on analog input AI4.

**Remedy**

- Search for a possible cause of overheating.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** *AEr* or manually with the **[Fault Reset Assign]** *r5F* parameter after the cause has been removed.

[AI5 Th Level Error] *LEH5F***Probable Cause**

The thermal sensor monitoring function has detected a high temperature on analog input AI5.

**Remedy**

- Search for a possible cause of overheating.
- Verify the settings of the monitoring function.

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset]** *AEr* or manually with the **[Fault Reset Assign]** *r5F* parameter after the cause has been removed.

[IGBT Overheating] $\text{E} \text{ } \text{J} \text{ } \text{F}$



Probable Cause

Drive power stage overheating.

On AFE drives: the thermal model of the AFE IGBT thermal monitoring has detected an overheat.



Remedy

- Verify the size of the load/motor/drive according to environment conditions.
- Reduce the switching frequency.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $\text{R} \text{ } \text{E} \text{ } \text{r}$ or manually with the **[Fault Reset Assign]** $\text{r} \text{ } 5 \text{ } \text{F}$ parameter after the cause has been removed.

[AFE IGBT over-heat error] $\text{E} \text{ } \text{J} \text{ } \text{F} \text{ } 2$



Probable Cause

Rectifier IGBT power stage overheating.



Remedy

- Verify the size of the load/motor/drive according to environment conditions.
- Verify and clean, if necessary, the cooling channel.
- Clean or replace the filter mats on IP54 products.



Clearing the Error Code

This detected error can be cleared with the **[Auto Fault Reset]** $\text{R} \text{ } \text{E} \text{ } \text{r}$ or manually with the **[Fault Reset Assign]** $\text{r} \text{ } 5 \text{ } \text{F}$ parameter after the cause has been removed.

[Autotuning Error] $t n F$ **Probable Cause**

- Special motor or motor whose power is not suitable for the drive.
- Motor not connected to the drive.
- Motor not stopped.

**Remedy**

- Verify that the motor/drive are compatible.
- Verify that the motor is connected to the drive during autotuning.
- If an output contactor is being used, verify that it is closed during autotuning.
- Verify that the motor is present and stopped during autotuning.
- In case of reluctance motor, reduce **[PSI Align Curr Max] $n L r$** .

**Clearing the Error Code**

This detected error can be cleared manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[Process Underload] $u L F$ **Probable Cause**

Process underload.

**Remedy**

- Verify and remove the cause of the underload.
- Verify the parameters of the **[Process underload] $u L d$** - function

**Clearing the Error Code**

This detected error can be cleared with the **[Auto Fault Reset] $R E r$** or manually with the **[Fault Reset Assign] $r 5 F$** parameter after the cause has been removed.

[AFE Mains Undervoltage] $\cup r F$ **Probable Cause**

- Too low DC-Bus voltage due to mains undervoltage.
- AFE overload.

**Remedy**

- Verify mains voltage.
- Verify the size of the load/motor/drive according to environment conditions.

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

[Supply Mains UnderV] $\cup S F$ **Probable Cause**

- Supply mains too low.
- Transient voltage dips.

**Remedy**

Verify the voltage and the parameters of **[Undervoltage handling] $\cup S b$** .

**Clearing the Error Code**

This detected error is cleared as soon as its cause has been removed.

FAQ

FAQ

Introduction

If the display does not light up, verify the supply mains to the drive.

The assignment of the fast stop or freewheel functions help to prevent the drive starting if the corresponding digital inputs are not switched on. The drive then displays **[Freewheel]** $\rightarrow$ **S E** in freewheel stop and **[Fast stop]** **F S E** in fast stop. This is a normal behavior since these functions are active at zero so that the drive is stopped if there is a wire break.

Verify that the run command input is activated in accordance with the selected control mode (**[2/3-wire control]** **E C C** and **[2-wire type]** **E C E** parameters).

If the reference channel or command channel is assigned to a fieldbus, when the supply mains is connected, the drive displays **[Freewheel]** $\rightarrow$ **S E**. It remains in stop mode until the fieldbus gives a command.

Drive lock in blocking state

The drive is locked in a blocking state and displays **[Freewheel Stop]** $\rightarrow$ **S E**, if a Run command such as Run forward, Run reverse, DC injection is still active during:

- A product reset to the factory settings,
- A manual "Fault Reset" using **[Fault Reset Assign]** $\rightarrow$ **S F**,
- A manual "Fault reset" by applying a product switched off and on again,
- A stop command given by a channel that is not the active channel command (such as Stop key of the display terminal in 2/3 wires control),

It will be necessary to deactivate all active Run commands prior to authorizing a new Run command.

Option Module Changed or Removed

When an option module is removed or replaced by another, the drive locks in **[Incorrect configuration]** **C F F** error mode at power-on. If the option module has been deliberately changed or removed, the detected error can be cleared by pressing the **OK** key twice, which causes the factory settings to be restored for the parameter groups affected by the option module.

Control Block Changed

When a control block is replaced by a control block configured on a drive with a different rating, the drive locks in **[Incorrect configuration]** **C F F** error mode at power-on. If the control block has been deliberately changed, the detected error can be cleared by pressing the **OK** key twice, which **causes all the factory settings to be restored.**