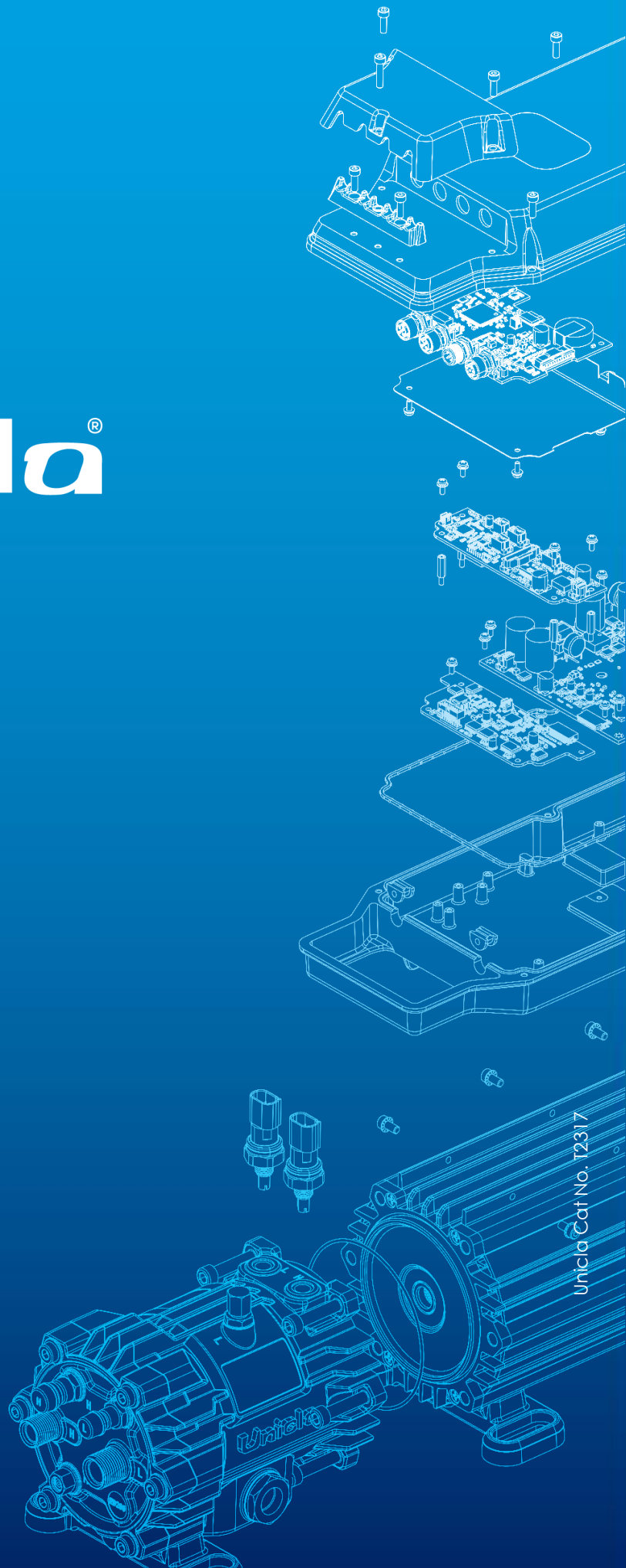


Unicla®

eDrive Faults



Unicla Cat No. T2317

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1 Basics

Title	eDrive Faults
Description	This consolidates the set of faults that will cause the eDrive to stop.
Exclusions	This does not cover faults that prevent the eDrive from attempting to run, e.g. bad system configuration.

2 Faults -Method 1

Availability	Sent as events by eDrive. Available on ethernet, USB and cloud connections
Variations	Detailed fault maps are available by reading specific parameters on the eDrive. See Expanded Faults section below.

Name	Description
Event	
CMC 3.3V Fault	Internal voltage supply rail failure
CMD 5.0V Fault	
Start Safety Limit Triggered	One or more compressor start limits breach has occurred, see below
Running Safety Limit Triggered	One or more compressor running limits breach has occurred, see below
Electrical Safety State	If state = fault, see below
Motor Safety State	If state = fault, see below
FMC Data State	If state = fault, see below

3 Faults -Method 2

Availability	Via eDrive operational status - Available on ethernet, USB, cloud and CAN.
Variations	Detailed fault maps are available by reading specific parameters on the eDrive. See Expanded Faults section below.

Name	Description
Status	
Fault Compressor Safety	Compressor Safety fault(s). This is in response to superheat, start and /or running safety limit breaches
Fault Motor	Motor Fault(s), see below
Fault FMC	FMC is reporting a fault state.
Fault Electrical	Electrical Faults, see below

4 Expanded Faults

These detailed faults are available via Unicla specific tools such are eConnect and Cloud connection.

Safety Flags Start and Run	Description
High Side Pressure Low	
High Side Pressure High	
High Side Temperature Low	
High Side Temperature High	
Low Side Pressure Low	
Low Side Pressure High	
Low Side Temperature Low	
Low Side Temperature High	
High Side Superheat Low	
High Side Superheat High	
Low Side Superheat Low	
Low Side Superheat High	

Motor Flags Start and Run	Description
Switch Temperature Min	
Switch Temperature Max	
Motor Temperature Min	
Motor Temperature Max	
Motor Power Absolute Limit	
Motor Power Run Limit	
Motor Control Fault - FOC rate too high	
Motor Control Fault - Over Voltage	
Motor Control Fault - Under Voltage	
Motor Control Fault - Overtemperature	
Motor Control Fault - Startup Fail	
Motor Control Fault - Speed Feedback Error	
Motor Control Fault - Over current	
Motor Control Fault - Software error	

Electrical Safety Flags	Description
FMC Data Invalid	

Electrical Safety Flags	Description
FMC 3V3 Fault	
FMC 5V Fault	
FMC VMON 24V Low	
FMC VMON 24V High	
FMC VMON XC 24V Low	
FMC VMON XC 24V High	
FMC VMON XC 5V Low	
FMC VMON XC 5V High	
FMC CT 5V Low	
FMC CT 5V High	
CMC 3V3 Fault	
CMC 5V0 Fault	
CMC VMON 5V Low	
CMC VMON 5V High	
CMC AUX VMON VCC Low	
CMC AUX VMON VCC High	
CMC UDPC VCC Low	
CMC UDPC VCC High	

5 Document Revisions

Version	Description	Saved by	Saved on	Status
v1.0	Initial release	Ritesh Lal	Oct 21, 2023 12:56 AM	APPROVED







