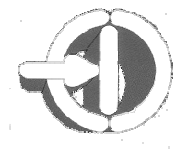C E
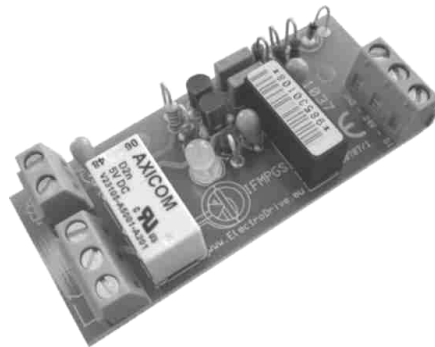
User's manual for the
Electro Drive B.V.

IFMPGS Thermistorrelay

for ABB Low Voltage AC drives, types ACS and ACH

CE

Description

The IFMPGS is used to connect a thermal motor protection (thermistor, PTC) to a ABB Low Voltage AC drive, types ACS and ACH. When the resistance of the thermistor is exceeding a certain value (indication for motor overtemperature) the IFMPGS is used to report a trip through the ac-drive. Also a contact is switched over for external warnings.

On the terminals which are marked as ( ) the thermistor can be connected. The level of resistance of the thermistor is measured and when exceeding the maximum value (about 2700Ω) the IFMPGS trips due to an overheating motor. When the resistance falls below the lower limit (about 2000Ω) the IFMPGS resets itself automatic. The AC-drive therefore must be locked until external reset (see *Drive Settings*). The yellow LED indicates the operation of the IFMPGS. The trip-state is also reported through a change-over contact. This contact however is not locked, when the motor is cooling down the contact returns to "healthy". The relay is active (turned on) in "healthy"-state and falls in trip-state. The thermistor is isolated from the drive, and also from the changeover contact.

Terminal diagram

9: AGND
10: 24V
11: GND
12: DCOM

18: DI6

ABB ACS/ACH

GND-24-DI

IFMPGS
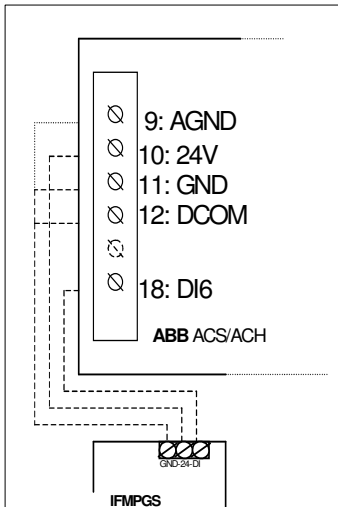
Drive Settings

To process the trip-state in the AC-drive, a few settings must me changed.
The parameters are located in group 35, motor protection:

3501 = 5 (THERM[0] : thermal protection through a digital input)
3502 = 8 (DI6 - PTC Thermistor : input DI6 is selected)
3504 = 1 (ACTIEF : the protection is active)
The AC-drive now reports [fault 9,MOTOR OVERTEMP] at trip state of IFMPGS.

BEWARE! When programming through laptop / pc, changing macro's or return to factory settings the mentioned parameters are overwritten and can cause malfunction. Therefore always check the parameters above when applying any changes.

Construction and precautions

The IFMPGS is mounted on the pillars next to SLOT 2 with the included bolts M3x8. Then the necessary connections are made with the proper wiring, also included.

The IFMPGS can also be made suitable for mounting on CE-rail, with a special housing.

Warnings:

Do not touch the circuit board or its parts while the power supply is turned on, so as to avoid danger of electric shock.
After the power supply is turned on, do not perform wiring or check, or other types of adaptations / manufacturing.
The thermistor voltage may never exceed 2,5Vdc.

Specifications

Type	: IFMPGS	For further information	:www.electrodrive.eu
Supply voltage	: 24Vdc ± 10%		:info@electrodrive.nl
Maximum load of contact	: 250V~ / 1A (AC1)		:Postbus 90
Ambient temperature	: -15˚ C tot +80˚ C		:NL-1500 EB ZAANDAM
Thermistor voltage	: ≤ 2,0Vdc		:NETHERLANDS
Isolation	: 1kV		
Dimensions	: 72 x 31 mm (l x b)		

Starting up

When the power is applied to the AC-drive the yellow LED will turn on and the relay will turn on. The AC-drive proceeds in normal operation. In case the thermistor is not (properly) connected, or the resistance is above trip level the AC-drive will trip with [FAULT 9,MOTOR OVERTEMP].

Reset

The IFMPGS resets itself when the connected resistance (thermistor, PTC) falls below 2kΩ. The AC-drive must be reset manually, by operation panel, reset input or by serial communication.

Contents

The IFMPGS-set contains the following items:
- 1 thermistorrelay
- 2 pcs M3 mounting screws
- 1 connection cable