



CSTFR1 ANALOG INPUTS NTC, 0/5V, 4/20mA selectable via software Total number 5 **DIGITAL INPUTS** Voltage free contact Total number 4 ANALOG OUTPUTS PWM, PPM selectable via software Total number DIGITAL OUTPUTS SPST relay 16A SPDT relay 8A SPST relay 8A SSR 230Vac 5 Total number OTHERS Insulated power supply 110-230Vac, 50-60Hz Connection for programming key Connection for remote user interface Buzzer CANhus RTC clock Modbus RS485 serial interface Dimensions (DIN module) Mounting DIN bar



CSTFR1 is an electronic programmable controller especially dedicated to refrigeration market and that allows full multiplexed cabinet management. Thanks to the software customisation possibility, it can be used in several types of application.

It's also available with optoinsulated Modbus RS485 serial communication interface







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TECHNICAL SPECIFICATIONS

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POWER SUPPLY - Da 85Vac a 265Vac, 50-60Hz. Maximum power consumption: 6VA

- Insulation between power supply and the extra-low voltage: reinforced

I/O	TYPE	NUMBER	SPECIFICATIONS	I/O	TYPE	NUMBER	SPECIF
Digital outputs	Relay	4	Insulation between relays: functional Insulation between relays and the extra-low voltage parts: reinforced	Digital inputs	Voltage free contact	4	DI1, DI2, Current
			C2-NO2, C3-NO3 Normally open contact relays 8A: - characteristics of each relay: 6A 250Vac for resistive load - 100.000 cycles 4A 250Vac for inductive loads - 100.000 cycles with cos(phi) = 0.6	Analog outputs	PWM-PPM	1	Analog - puls or - puls op
			C1-NO1-NC1 Changeover contacts relay 8A:	Analog inputs	Passive	4	AI1, AI2 NTC tem
			 - characteristics of each relay: 6A 250Vac for resistive load - 100.000 cycles 4A 250Vac for inductive loads - 100.000 cycles with cos(phi) = 0.6 		Active/passive	1	Al4 Pressure The inpu 12V+ po 5V+ pov Accurac
			C4-NO4 High inrush current normally open contact relays 16A: - characteristics of each relay: 1000W incandescent lamp, 250Vac, NO contact: 80.000 cycles 10A, 240Vac, NO contact, 85°C, VDE/VLIS08: 50.000 cycles 21/3,5A, 230Vac, compressor, cos(phi) = 0,5, NO contact: 230.000				
	Solid state relay	1	Insulation between SSR and relays: functional Insulation between SSR and the extra-low voltage parts: reinforced Type of SSR action: 1C (micro-interruption)				
			C6-NO6 SSR, with output AC Zero-crossing: - load current: 1A - Load voltage: from 75 to 250Vac				

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GENERAL FEATURES AND WARNINGS

PLASTIC HOUSING FEATURES

- DIN rail mounting complying with EN 60715 Self extinguishing V0 according to IEC 60695-11-10 and glowing/hot wire test at 960°C
- according to IEC 60695-2-12 Ball test: 125°C according to IEC 60730-1. Leakage current: ≥ 250V according to IEC 60112

OTHER FEATURES

- OTHER FEATURES Operating conditions CE: -20T60 / UL: 0T55, 90% RH non-condensing Storage conditions: -30T80, 90% RH non-condensing To be integrated in Class I and/or II appliances Index of protection: IP40 only on the front cover Period of electric stress across insulating parts: long

- Suitable for using in a normal pollution environment Category of resistance to heat and fire: D Immunity against voltage surges: category II
- Software class and structure: class A

CE COMPLIANCE

- CE COMPLIANCE This product is designed to comply with the following EU standards: Low voltage guideline: 73/23/EEC Electromagnetic compatibility EMC: 89/336/EEC and with the follwing norms: EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and ligth-industrial environments) EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) EN60730 (Automatic electrical controls for household and similar use)

GENERAL WARNINGS

- Every use that is not described in this manual is considered incorrect and is not authorised by the manufacturer
- Verify that the installation and operating conditions of the device respect the ones specified in the manual, specially concerning the supply voltage and environmental conditions
 This device contains live electrical components therefore all the service and maintenance operations

- The device can't be used as a safety device Liability for injury or damage caused by the incorrect use of the device lies solely with the user

INSTALLATION WARNINGS

- INSTALLATION WARNINGS The installation must be executed according the local standards and legislations of the country Always operate on the electrical connections with the device disconnected from the main power supply Before carrying out any maintenance operations on the device, disconnect all the electrical connections For safety reasons the appliance must be fitted inside an electrical panel with no live parts accessible Don't expose the device to continuous water sprays or to relative humidity greater than 90%.
- Avoid exposure to corrosive or pollutant gases, natural elements, environments where explosives or mixes of flammable gases are present, dust, strong vibrations or chock, large and rapid fluctuations in ambient temperature that in combination with high humidity can condensate, strong magnetic and/or - When connecting loads beware of the maximum current for each relay and connector - Use cable ends suitable for the corresponding connectors. After tightening the screws of connectors,
- slightly tug the cables to check their tightness
- Use appropriate data communication cables. Refer to the Fieldbus Installation Guide for the kind of cable to be used and setup recommendations
- Reduce the path of the probe and digital inputs cables as much as possible, and avoid spiral paths enclosing power devices. Separate from inductive loads and power cables to avoid possible electromagnetic noises
- Avoid touching or nearly touching the electronic components fitted on the board to avoid electrostatic discharges

ICATIONS

, DI3, DI4

- consumption: 5mA
- outputs selectable via software between:
- sing output, synchronous with the line, at modulation of impulse position (PPM)
- modulation of impulse with (PWM) sing output, at modulation of impulse position (PPM) with range 20Hz ÷ 1KHz:
- pen circuit voltage: 5V
- ninimum load: $1k\Omega$

2, AI3, AI5

perature probes, 10kΩ at 25°C

- e transducer with 4/20mA or 0/5V output or for NTC temperature probe, default: 10k Ω at 25°C out type is selectable via software betweer
- ower supply for 4/20mA transducers: 12Vdc, 120mA max
- wer supply for 0/5V transducers: 5Vdc, 100mA max
- cy of measure: 3% f.s. resolution: ±50µA



*NOTE: connection has to be made on the first and last local network units, make the connection as close as possible to the connector

MAKING MODERN LIVING POSSIBLE





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CSTFR1 electronic controller



REFRIGERATION & AIR CONDITIONING DIVISION MYK co Modbus RS48 485 L PRG

CONNECTIONS

- BOTTOM BOARD
 Power supply connector
 2 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 Digital output connector
 11 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 Input/output connector
 Molex⁸ Mini-Fit JrTM type or compatible
 Female connector 14 way, Molex⁶ code: 39012140
 Molex⁸ cod of contact
 39000077 for cable with section: AWG16, (1.30mm²)
 39000038 for cable with section: AWG18, 20, 22, 24 (0.82...0.20mm³)
 39000046 for cable with section: AWG22, 24, 26, 28 (0.32..0.08mm³)
 For the crimping to use the appropriate instrument, Molex⁸ code 690080724
 Serial com connector
 3 way screw plug-in connector type pitch 5mm: section cable 0.2-0.5mm²
 CAN connector
 4 way screw plug-in connector type pitch 5mm: section cable 0.2-0.5mm²
 CAN-RI connector
 6/6 way telephone RJ11 plug type

PRODUCT PART NUMBERS

CODE	DESCRIPTION
080G0155	CSTFR1, 230V, I
080G0156	CSTFR1, 230V, RS485, I