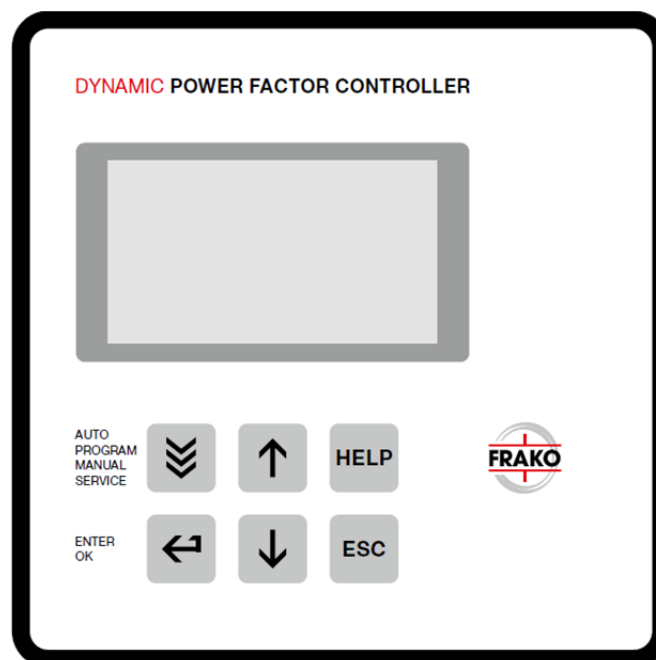




Power Factor Controller

PFC-12TR-1 / PFC-12TR-1-RS485

for Dynamic and Hybrid Power Factor Correction Systems



Technical Datasheet

Power Factor Controller PFC-12TR-1 / PFC-12TR-1-RS485

for Dynamic and Hybrid Power Factor Correction Systems

Technical Data

Type	PFC-12TR-1	PFC-12TR-1-RS485
Part No.	39-29060	39-29061
Supply voltage (L-N / L-L)	110-440 V AC, $\pm 15\%$	
Consumption	max. 5 VA	
Display	128 x 64 Pixel	
Voltage measurement	L-N / L-L	
Voltage ranges	30-440 V AC L-N / 50-760 V AC L-L	
Tolerance	-15 / +10 %	
Frequency	42-80 Hz	
Sampling rate	10 kHz (bei 50 Hz)	
Current measurement	Single phase	
Current ranges	x / 5 A (x / 1 A)	
Response current	50 mA (10 mA)	
Maximum current	6 A	
Consumption of current measurement	ca. 0.2 VA	
Switching outputs (relay)	12	
Switching capacity	max. 250 V / 1.000 W	
Fusing	10 AT	
Mechanical lifetime	$>10^7$ switching cycles	
Electrical lifetime	$>10^5$ switching cycles	
Switching outputs (transistor)	12	
Switching voltage	5-30V DC	
Switching current	max. 50 mA	
Alarm relay (switching capacity)	1 (max. 250 V / 1.000 W)	
Digital input (tariff switching)	-	•
Interface (communication)	-	RS485
Supported communication protocols	-	Modbus RTU, Modbus KTR, ASCII Out, Master Mode, Slave Mode, Slave Hybrid
Controller Networking	-	•
Dimensions (W x H x D)	144 x 144 x 53 mm	
Weight	1.000 g	
Protection degree according to IEC 60529	front IP54, back IP20	
Mounting	front plate	
Connection cross-sections	0.08-2.5 mm ² (solid, stranded and fine-stranded) 1.5 mm ² (pin cable lug, wire end sleeve)	
Operating temperature range	-10 ... +55 °C	-10 ... +50°C
Storage temperature range	-20 ... +60 °C	
Relative humidity	max. 95% without condensation	
Altitude	max. 2,000 m	
Degree of pollution	2	
Mounting position	any	
EMI	Guidelines 2004/108/EG & 2006/95/EG	
Device security	IEC/EN 61010-1 & IEC/EN 61010-1-08	
Protection class	I (with protective conductor)	
Interference immunity	DIN EN (IEC) 61326-1, industrial environment	
Emitted interference	DIN EN (IEC) 61326-1, class B: living environment DIN EN (IEC) 61326-1, class A: industrial environment	

Technical Datasheet

Power Factor Controller PFC-12TR-1 / PFC-12TR-1-RS485

for Dynamic and Hybrid Power Factor Correction Systems

Functions

Regulation

- automatic regulation according to defined parameters
- 4 quadrant operation
- Switchable between automatic and manual operation
- Regulation of capacitive and inductive stages
- Adjustable control delay

Installation

- Automatic initialisation

Display

- Network parameters (V, I, f, P, Q, S, cos phi.)
- Temperature
- Voltage harmonics up to 33. (even harmonics up to 16.)
- Current harmonics 33. (even harmonics up to 16.)
- Total harmonic distortion THD-V & THD-I
- Missing reactive power
- kWh

Monitoring of the PFC system

- Capacitor current
- Temperature
- Operating hours
- Switching cycles
- Zero voltage shutdown

Alarmmanagement

- Alarm output on alarm and / or signal relay *

Alarm overview

- Undervoltage
- Overvoltage
- Undercurrent
- Overcurrent
- Undercompensation
- Overcompensation
- Harmonic thresholds
- Overtemperature
- Switching cycles
- Modbus error*
- Capacitor defect*

Error and max value memory

Ventilation control*

*) only with the -RS485 controller

Connection diagram

