

PBM Protection, Control and Monitoring System

MOTOR MANAGEMENT SYSTEM

INTEGRAL SOLUTION FOR MCCs ADAPTABLE TO EVERY CUSTOMER NEEDS

MULTIFUNCTION FAULT REPORTS

4 fault reports with the following information: dates, measurements, status bits, inputs and outputs.

SELF-DIAGNOSIS, INSTALLATION MONITORING AND STATISTICS

- Earth toroidal disconnection monitoring.
- PTC sensor open circuit and short circuit detection.
- Magnetic module hardware monitoring.
- Non-volatile memory stored information coherence.
- Number of motor start ups.
- Medium and maximum current of last start up.
- Number of faults for the following functions: Overload, PTC, JAM, locked rotor and neutral faults.
- Operating hours counter.
- Test menu.

DESIGNED FOR SCADA APPLICATIONS

RTU Modbus protocol and RS485 communication

COMMANDS MANAGEMENT

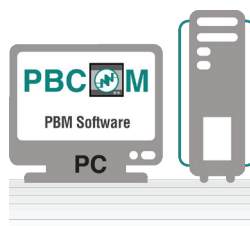
- Start/Stop by 2 or 3 wires, without additional switches or push-buttons
- Remote Start/Stop, more efficiency and cost saving.

COMMUNICATION SOFTWARE PBCom

PBM B



PBM H



PROTECTION FUNCTIONS

- $I_{0>}$ Overload with thermal image
- $I_{t'}$ Overheating protection (PTC sensor)
- I_{Δ} Phase imbalance or phase failure
- (P) Phase sequence
- JAM** JAM detection
- I_{L} Locked rotor detection
- $I_{g>>}$ Instantaneous earth leakage overcurrent
- $I_{g>}$ Earth leakage inverse time overcurrent
- $I_{0>>}$ Instantaneous neutral overcurrent
- $I_{0>}$ Neutral inverse time overcurrent
- $I_{<}$ Undercurrent



PBM B

BASE MODULE

Current measurement is obtained from the motor line through the magnetic module without need of external current transformers.

From 0,8 up to 25 A with internal current transformers.
Over 25 A with external current transformers.

| MODELS | PBM-B1 | | PBM-B5 | | | |
|--|---|---------|----------|---------------|----------|-------|
| | PBM-B11 | PBM-B12 | PBM-B51 | PBM-B52 | | |
| Adjustment range | lb (A) | | 0,8-6A | 0,8-6A | 4-25A | 4-25A |
| Auxiliary supply | 110/230Vac-dc | | 24/48Vdc | 110/230Vac-dc | 24/48Vdc | |
| Frequency | 50/60/ variable (45-65) Hz | | | | | |
| Maximum motor nominal voltage | 1.000 Vac | | | | | |
| CODE | 17000 | 17002 | 17001 | 17003 | | |
| For I_N of the motor below the minimum setting I_B | Pass the cables several times (n) through the holes in the relay $I_B = n \times I_N$ | | | | | |
| For I_N of the motor above the maximum setting I_B | Use 3 CT .../5 and the relay PBM B and pass the secondary through the holes | | | | | |
| OTHERS CHARACTERISTICS | | | | | | |
| Optional | PBM-H display module HMI | | | | | |
| Inputs | 1 x PTC temperature sensor, 1 x Toroidal transformer (external earth fault), 1 x Digital input 24 Vdc | | | | | |
| Outputs | 2 x NO-NC contact | | | | | |
| Short circuit withstand rating | 5000 A to 0,5s (SCR 5000@0,5s) | | | | | |
| Communication | RS485 ModBus RTU | | | | | |
| Signalling | 5 signalling LEDs | | | | | |
| Reset mode | Manual, automatic and automatic time delayed | | | | | |
| Test | Specific test menu | | | | | |
| Operating temperature | - 10°C + 60°C | | | | | |

PBM H

DISPLAY MODULE HMI

This is an optional display module with an LCD screen for signalling, control and setting.

The LEDs can be configured and are identified by labels.

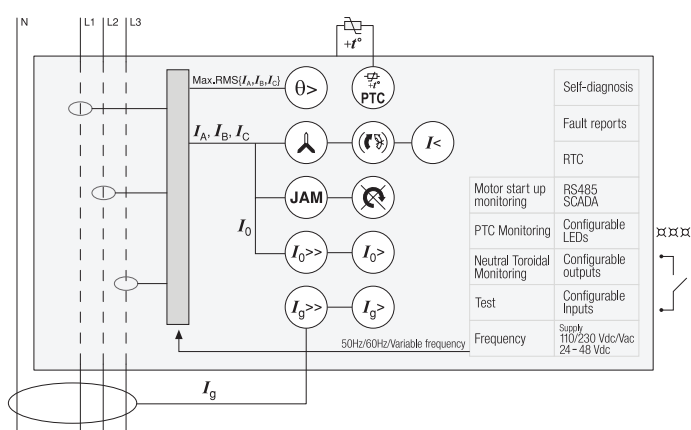
Access to menus is intuitive and direct, making protection system commissioning easier.

| CODE | ACCESORIES | LANGUAGE |
|-------|-------------------|----------|
| 17015 | PBM - H1S1 | Spanish |
| 17016 | PBM - H1F1 | French |
| 17017 | PBM - H1E1 | English |
| 17018 | PBM - H1P1 | Polish |
| 17019 | PBM - H1G1 | German |
| 79229 | CD PBM | |
| 17008 | CDCNB CABLE 0,5 M | |
| 17009 | CDCN1 CABLE 1 M | |

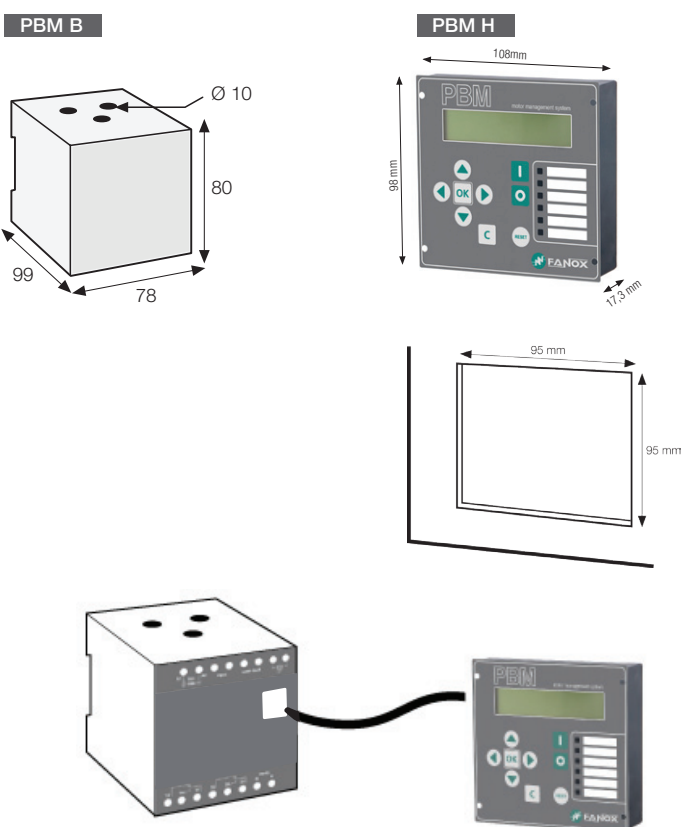
CHARACTERISTICS PBM H

| | |
|---------------|--|
| LCD Display | 20 x 2 alphanumeric characters |
| Keyboard | 9 keys |
| Communication | RJ45 connector to relay |
| Signalling | 6 configurable signalling LEDs |
| Reset mode | Manual, automatic and automatic time delayed |
| Test | Specific test menu |

FUNCTION DIAGRAM PBM B



DIMENSIONS (mm)



CONNECTION DIAGRAM PBM B

