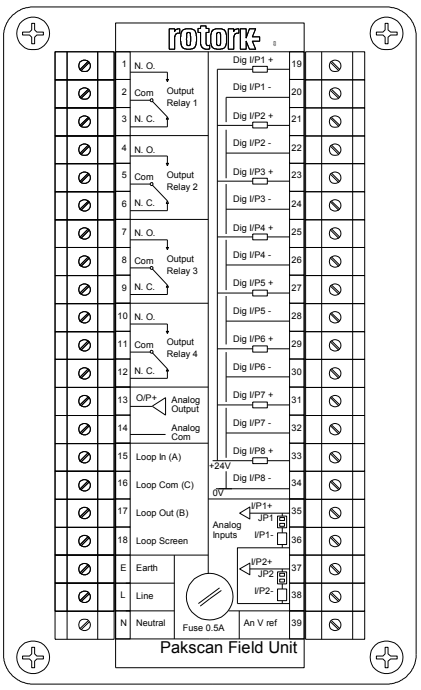
Pakscan
General Purpose Field Control Unit
Panel Mounted (PM-PB2)

Publication: PUB059-017-00_0715



GENERAL DESCRIPTION

The Pakscan General Purpose Field Control Unit (GPFCU) provides a means of controlling actuators, pumps, motors, solenoid valves, mixers, etc., as well as interfacing digital and analogue information between field process devices and a Pakscan two-wire loop system. The panel mounting PM-PB2 can be safe area mounted within an existing enclosure to allow simple connection to the devices being controlled.

The PM-PB2 enclosure is manufactured from grey polycarbonate and includes fixing holes for surface mounting. The enclosure provides a degree of protection to IP55, however we recommend that it is always protected by an outer enclosure. Electrical connections are made to the terminal block on the lid of the unit.

PERFORMANCE SPECIFICATION

Pakscan 2 -Wire Interface

Baud Rate	2400, 1200, 600, 300 or 110
Current	20 mA
Conductors	screened twisted pair

8 off Digital Inputs

Isolation	mutual galvanic isolation
Input Voltage	active 18V < Vi < 38V
	inactive -0.5V < Vi < 2V
Pulse input	Input 1
Pulse width	> 20 ms
I/P power supply	internal 24V at 20 mA max

4 off Digital Outputs

Contacts	changeover
Operation	fleeting or maintained
	(normally de-energised)
Voltage range	up to 120V
Max load	60W, 125VA, (max 1 A)
Life	10^7 operations at 5W load

2 off Analogue Inputs

Range	0 to 5V, or 4 to 20 mA
Resolution	1.2mV
Thermal stability	100 ppm/°C

1 off Analogue Output

Voltage range	0 to 5V
Resolution	1.2mV
Thermal stability	100 ppm/°C
Load resistance	>1 kOhm

Electrical Supply

Supply	110V ac +/-20% or
	230V ac +10%/-20%, (47-63 Hz)

I/O DESCRIPTION

General Purpose Mode

4 off digital outputs, each with one independently addressable C/O contact rated at 60W, 125VA, (max 1A). All contacts can be either fleeting, (300ms), or maintained (requiring an energise and de-energise command).

1 off analogue output, 0 - 5V, with 1.2mV resolution, i.e. 12 bit accuracy.

8 off independent digital inputs, each requiring a volt-free input. Each input can be configured to

invert the incoming signal. (Input D1 also acts as a pulse counter, up to 9999, provided that the pulse is greater than 20mS).
The state of the output relays and their action (fleeting or maintained) is reported as are status bits relating to the field unit itself.

2 off analogue inputs sharing a common return, either 4 - 20mA or 0 - 5V, reported as a value between 0% and 100%. Both inputs must be the same, i.e. voltage or current. For voltage inputs JP1 and JP2 must be removed. The default setting is for current inputs with JP1 and JP2 fitted.

Alarms
POWR - Reset (on restoration of power)
WDOG - Watchdog failure
MEMF - Memory failure
COMMS - Communication failure

Actuator Mode
Digital control
Open, Stop, Close, ESD, (ESD option is not available on all actuator types).

Position control
Over range 0% to 100%, (not available on all actuator types).

Digital feedback
The field unit reports the following status bits, (some of the options are not available on all actuator types):
OAS - open limit switch
CAS - closed limit switch
STOP - motor stopped
MRUN - motor running
MRO - motor running in open direction
MRC - motor running in closed direction
EXT - status of an external digital signal, (only available when position control is **not** used).
Further status bits relating to the field unit are also reported, i.e. loopback on, new alarm and alarm.

Analogue feedback
Valve position over range 0% to 100%, (not available on all actuator types).

Alarms
POWR- power on reset (on restoration of power)
WDOG - watchdog failure
MEMF - memory failure
COMMS - communication failure
CNA - local control selected
MREL - monitor relay tripped
THERM - thermostat tripped
LSTOP - local stop selected
(some or all of the above may not be available depending on actuator type).

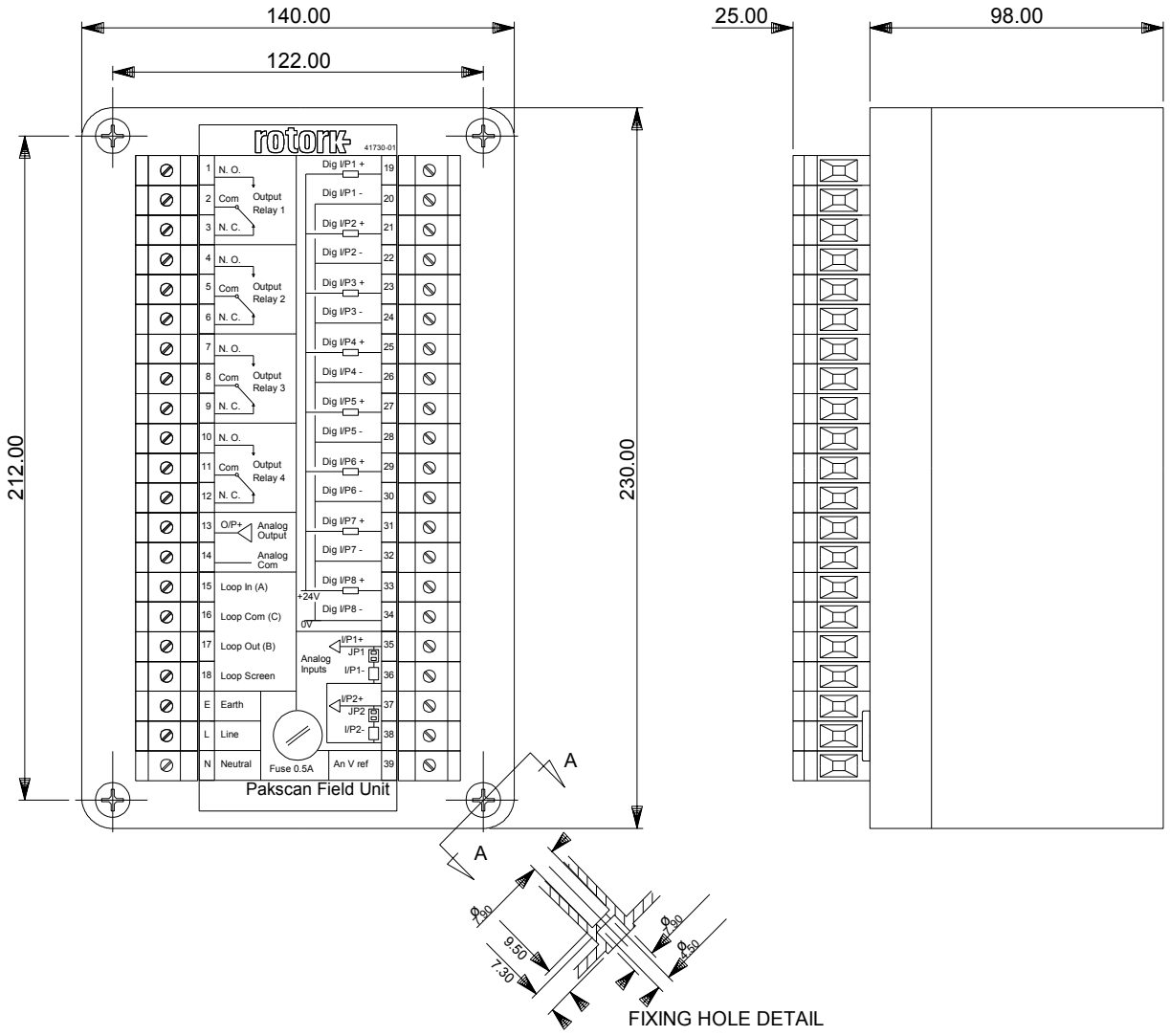
Derived alarms
SFAIL - motor start or stop failure
VOBS - valve obstruction detected, torque tripped
VJAM - valve stuck detected, torque tripped
MOP - valve moved to open limit manually
MCL - valve moved to closed limit manually
MOPG - valve moved from closed limit manually
MCLG - valve moved from open limit manually
EOT - motor running at end of travel
(some or all of the above may not be available depending on actuator type).

MECHANICAL DESCRIPTION

Enclosure
Grey polycarbonate suitable for panel mounting protection rated to IP55.

Terminals
Clamping terminals suitable for up to 4.0mm² conductors for power supply, data highway, I/O and earth connections.

Environmental specification
Operating temperature, -30^{o} to +70^{o}C
Storage temperature, -50^{o} to +85^{o}C
Humidity, 5% to 95% R.H. non-condensing
Vibration, 0.75g (0.5Hz to 300Hz)



Ordering Details

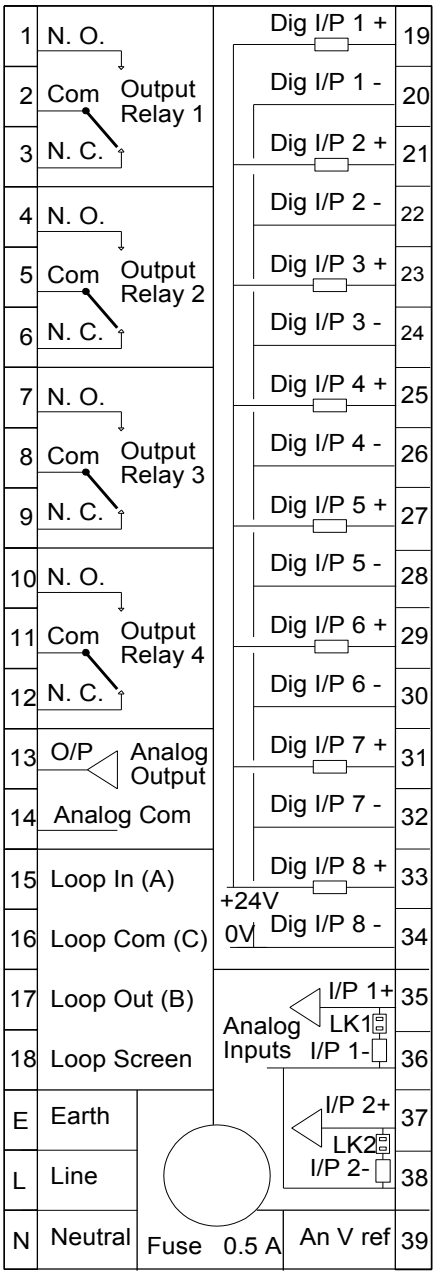
With all orders it is necessary to specify the supply voltage for the field unit.

PM - PB2 - X

└ Supply Voltage
1 = 110 V ac
2 = 230 V ac

Example:

PM-PB2- 1
110 V ac supply



PM-PB2 connection details

http://www.rotork.com

UK
Rotork PLC

Tel: +44 (0) 1225 733 200
Fax: +44 (0) 1225 333 467
e-mail: mail@rotork.com

USA
Rotork Controls Inc.

Tel: +1 (585) 247 2304
Fax: +1 (585) 247 2308
e-mail: info@rotork.com