

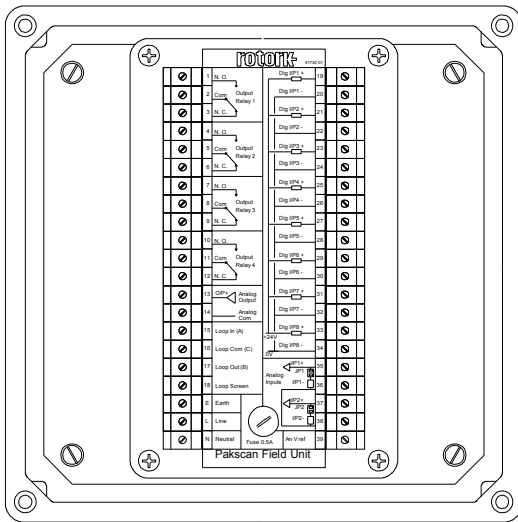
Pakscan

General Purpose Field Control Unit

Weatherproof Box Mounted (WP-PB2)

rotork

Publication: PUB059-016-00_0715
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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 control system. By using a Weatherproof WP-PB2 housing the GPFCU can be field mounted in a safe area and may often be placed close to the device being controlled.

The WP-PB2 enclosure is manufactured in GRP and includes fixtures for use in mounting the box on either a wall or pipe bracket. Cable gland access is allowed for on both sides.

The Pakscan GPFCU is housed in a separate internal enclosure with the equipment terminals outside on its lid. This ensures that during installation and operation the effects of moisture on the electronic components are minimised.

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 $18V < V_i < 38V$ inactive $-0.5V < V_i < 2V$ |
| 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) |
|--------|--|

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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 20 ms).

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).

Pakscan General Purpose Field Control Unit Weatherproof Box Mounted (WP-PB2)

MECHANICAL DESCRIPTION

Enclosure

Outer enclosure glass fibre reinforced polyester with an opaque lid, finished in grey to RAL 7032. The enclosure is suitable for wall mounting or alternatively with clamps for 2" pipe mounting. The outer enclosure is weatherproof to IP65-9. The inner enclosure is polycarbonate.

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° to +70°C
Storage temperature, -50° to +85°C
Humidity, 5% to 95% R.H. non-condensing
Vibration, 0.75g (0.5Hz to 300Hz)

Ordering Details

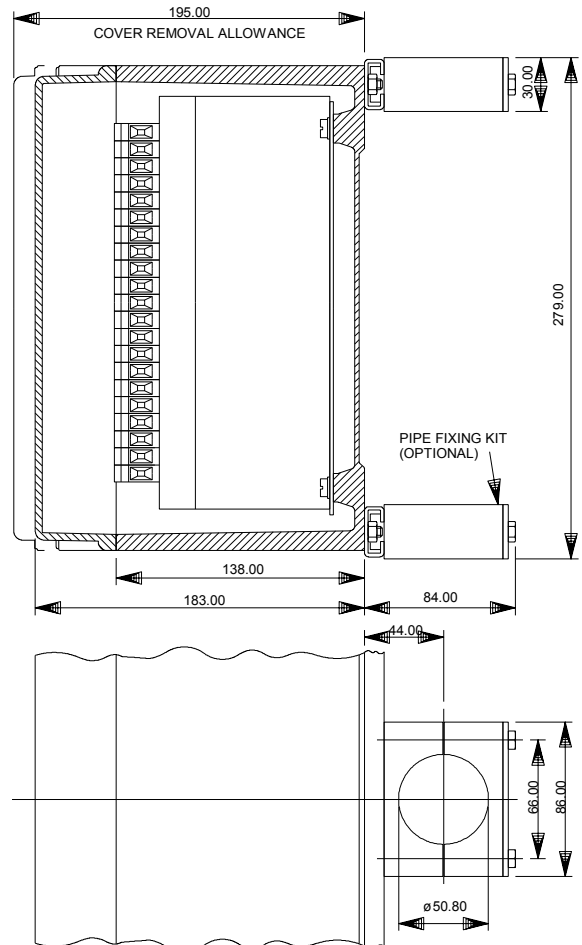
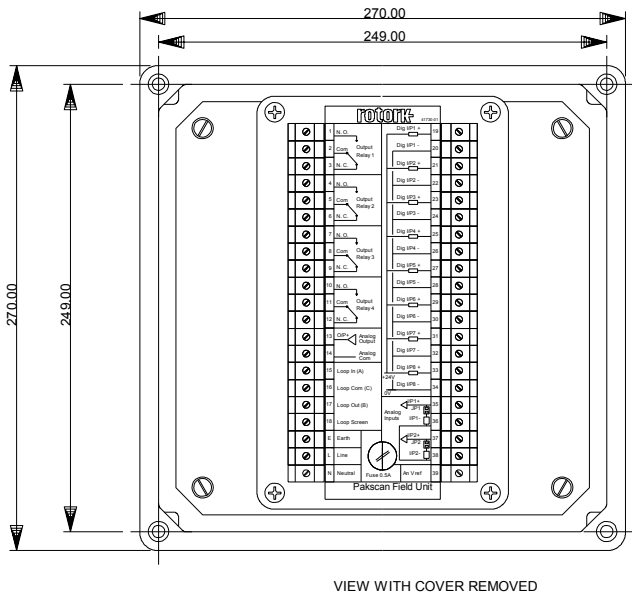
With all orders it is necessary to specify the supply voltage for the field unit and the fixing option required.

Example:

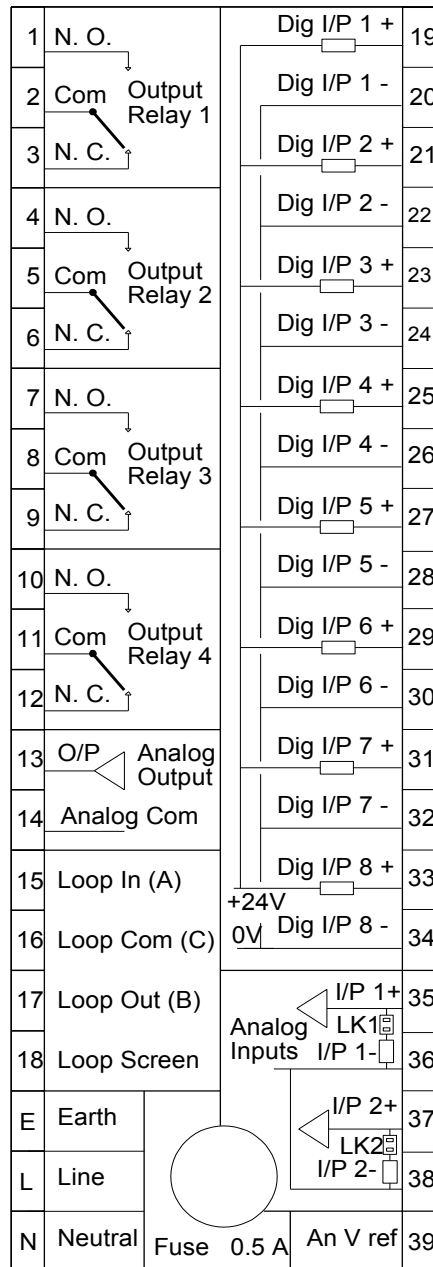
WP-PB2- 1 - 0
110 V ac supply, no brackets

WP - PB2 - X - X

- └─ Fixings
 - 0 = no brackets
 - 1 = pipe brackets
- └─ Supply Voltage
 - 1 = 110 V ac
 - 2 = 230 V ac



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WP-PB2 connection details