### **Base Modules**

PD Series 600







### **Module Structure**

PD 600 series DPIs and I/O devices are made up of two parts – the Terminal Base Module and the Electronics Module.

#### **Electronics and Base Combinations**

When forming clusters of 600 series modules, it needs to be ensured that the base module used matches the electronics module, in terms of the input and output terminals required. Whilst connectors between electronics and base modules are keyed to prevent incorrect combinations, it should be understood that certain electronics units can be plugged into more than one base module type, in order to provide a variation in input/output connections. For example, a PD 601 DPI electronics unit can use a BM 003 or BM 011 base module, depending whether RJ45 or

screw connections are required. Another example involves a PD 620 Digital I/O electronics module, where when combined with a BM 001 base provides 4 input or output terminals, but if combined with a BM 008 base, provides four relay output connections.

The table views below, define possible combinations and resultant connections. Since electronics and base modules have individual part numbers, the user should be aware of the connection requirement at time of order.

### **DPI, SPI and RPI**

|  | BM 002                             | BM 016 <sup>(*</sup><br>(BM 007)<br>(BM 003) | BM 010                                 | BM 011                                 | BM 012                                    | BM 020                 |
|--|------------------------------------|--|--|--|---|------------------------|
| PD 600/600B<br>DPI with RS485<br>Interface   | RS-485<br>P-NET<br>Screw Terminals |  | RS-485<br>P-NET<br>Screw Terminals     |  | RS-485<br>4-Wire P-NET<br>Screw Terminals |                        |
| PD 601<br>DPI with RS232<br>Interface  |                                    | RS-232<br>Interface RJ45                     |  | RS-232<br>Interface<br>Screw Terminals |   |                        |
| PD 602<br>DPI with Ethernet<br>Interface   |                                    | LAN<br>Interface RJ 45                       |  |  |   |                        |
| PD 602B<br>DPI with Ethernet<br>Interface  |                                    |  |  |  |   | LAN<br>Interface RJ 45 |
| PD 661<br>SPI (Simple P-NET<br>Interface)  |                                    |  | RS-485<br>P-NET<br>Screw Terminals     |  | RS-485<br>4-Wire P-NET<br>Screw Terminals |                        |
| PD 662<br>RPI (Redundant<br>P-NET Interface)   |                                    |  | 2 x RS-485<br>P-NET<br>Screw Terminals |  |   |                        |
| PD 663<br>SPI (Simple P-NET<br>Interface)  |                                    |  | RS-485<br>P-NET<br>Screw Terminals     |  |   |                        |
| PD 667<br>DPI with RS-485<br>Interface<br>(Profibus DP-V0<br>Essential Features<br>Master) | RS-485<br>P-NET<br>Screw Terminals |  | RS-485<br>P-NET<br>Screw Terminals     |  |   |                        |

<sup>\*)</sup> Recommended

# **Digital Interface Modules**

|  | BM 004                                       | BM 005                       | BM 006                        | BM 008                          | BM 014 <sup>(*</sup><br>(BM 001) |
|--|--|------------------------------|-------------------------------|---------------------------------|----------------------------------|
| PD 620<br>4-Channel Digital IO<br>(Sink w. pullup) |  |                              |                               | 4x Relay Out<br>Screw terminals | 4 x IO<br>Screw Terminals        |
| PD 621<br>6-Channel Digital IO<br>(Sink w. pullup) | 4 x Input<br>2x Relay Out<br>Screw Terminals | 6 x Input<br>Screw Terminals | 6 x Output Screw<br>Terminals |                                 |                                  |
| PD 622<br>4-Channel Digital IO<br>(Sink w. pullup) |  | 6 x Input<br>Screw Terminals |                               |                                 |                                  |

<sup>\*)</sup> Recommended

### **Valve Interface Modules**

|                                | BM 009   | BM 015  | BM 019*   |
|--------------------------------|--|---|---|
| PD 625<br>Valve Control Module | 2 x Digital Input<br>or<br>1 x Analog Input<br>(2k or 10k Ohm Potentiometer)<br>2 x Relay Out<br>Screw Terminals |   |   |
| PD 527<br>Valve Control Module |  | Control of valve:  2 x Digital Input or  1 x Analog Input  (2 k Ohm potentiometer)  2 x Relay Out - the BM015 base module is as standard equipped with a 6A fuse  Control from PLC:  2 x Digital Input  2 x Digital Output or  1 x Analog Output (4-20 mA)  Other IO:  1 x Digital Input  (ESD: Emergency shut down  1 x Digital Output  (Alarm)  Screw Terminals | Control of valve:  2 x Digital Input or  1 x Analog Input  (2 k Ohm potentiometer)  2 x Relay Out - the BM015 base module is as standard equipped with a 6A fuse  Control from PLC:  2 x Digital Input  2 x Digital Output or  1 x Analog Output (4-20 mA)  Other IO:  1 x Digital Input  (ESD: Emergency shut down  1 x Digital Output  (Alarm)  Screw Terminals |

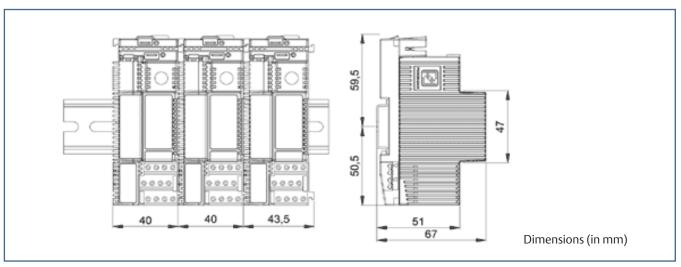
<sup>\*)</sup> Used for reversible condensator motor (460V VDR).

### **Analog Interface Modules**

|   | BM0013                                | BM 014 <sup>(*</sup><br>(BM 001)  |
|---|---------------------------------------|-----------------------------------|
| PD 640 2-Channel Analog IO and 2-Channel Analog input (0/4-20 mA) |                                       | 4 * Current IO<br>Screw Terminals |
| PD 641<br>3-Channel Analog Input (Pt100 / Pt1000)                 | 3 * Pt100 / Pt1000<br>Screw Terminals |                                   |
| PD 642<br>4-Channel Analog Input (mV)                             |                                       | 4 * Voltage<br>Screw Terminals    |

<sup>\*)</sup> Recommended

# **Technical Specifications**



| Weight:                      | 80 grams approx.   |  |
|------------------------------|--|--|
| Power supply:                | See specification on the electronic module   |  |
| IO Connector:                |  |  |
| Max. current in IO Terminals | 2 A  |  |
| Max. wire-dimension          | 2.5 mm2  |  |
| Cage clamp opening size      | 2.5 x 1.7 mm   |  |
| Contact resistance           | < 15 M Ohm   |  |
| Relays:                      |  |  |
| Contact type                 | Normally open  |  |
| Max. current / voltage       | max. 6 A 250 V AC or DC (This limit must not be exceeded during cut-in nor during operation) |  |
| Powerrail                    | 10 A   |  |
| RJ 45 Female connector       | Use RJ45 male connector with shield.   |  |
| Operation Temperature:       | −25 °C to + 70 °C  |  |
| Storage temperature:         | -40 °C to +85 °C   |  |

# **Maritime Approvals**

Meets the requirements of all the major international marine classification societies.

For more information see PDS for the PD Serie 600 Introduction.

#### **About Emerson's Marine Solutions**

Emerson is a world-leading provider of marine solutions with engineering excellence, decades of industry experience and global presence supporting any ship anywhere. All marine systems and solutions are designed especially for the harsh marine environments, engineered and manufactured in-house by our skilled teams of marine engineers. Emerson is well-known in the industry and has more than 50 years' experience with a large installed base and covers well-known marine brands such as Rosemount, Micro Motion and Damcos. Supporting marine customers from a global network of sales and service hubs along the maritime highway.

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