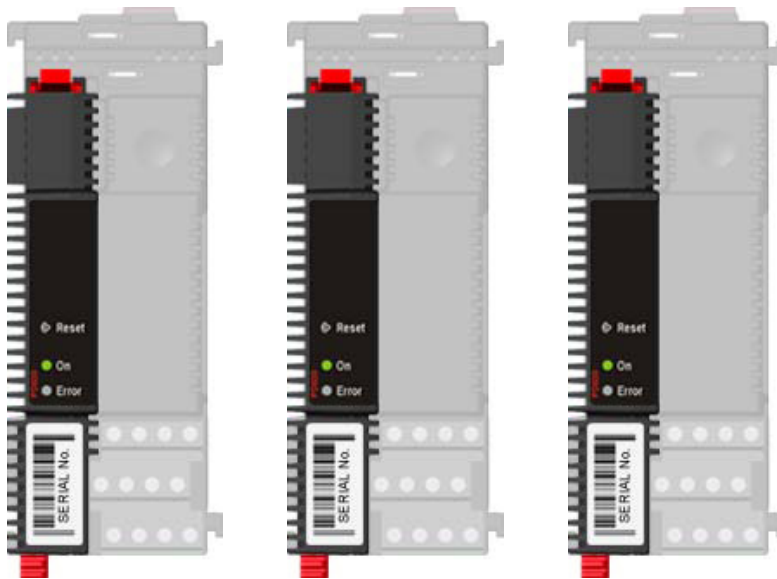# PD 600-601-602 DPI-Programmable Devices

## PD Series 600 General Information

**The PD 600 series of Distributed Process Intelligence units features:**

- Real time clock with battery backup

- Up to 480 Kbytes RAM memory with battery backup for user data

- Up to 1 Mbytes in circuit programmable FLASH memory for user program

- Up to 2 Mbytes in circuit programmable FLASH memory for user data

- Built-in replaceable lithium battery

- LED state indicators

- Low power consumption

- Process-Pascal programmable

- Automatic checksum control of program memory after each reset

**EMERSON.**

# Introduction

The PD 600 series of Distributed Process Intelligence units - DPIs - has been developed as the 3rd generation of P-NET fieldbus programmable master devices, for use as distributed computing elements within highly complex as well as simple process control systems. The PD 600 series is part of a new family of standard process control devices, which can be mounted on a DIN rail.

When mounted, communication is automatically enabled through the Light-Link interface. Power is applied to all devices on the same rail by a common power bar. These facilities make mounting, connection, replacement and addition of devices very quick and easy.

# Memory

The PD 600 DPI is available with 4 different memory versions: Small, Medium, Medium+ and Large. The amount and type of memory for each version is shown in the table.

| Type | RAM *) | Program Flash | Data Flash |
|------|--------|---------------|------------|
| PD 600 S | 64 Kbytes | 64 Kbytes | 128 KBytes |
| PD 600 M | 480 Kbytes | 512 Kbytes | 1024 Mbytes |
| PD 600 M+ | 992 KBytes | 512 KBytes | 1024 KBytes |
| PD 600 L | 480 Kbytes | 1024 Mbytes | 2048 Mbytes |

*) 2Kbytes of RAM reserved for system variables.

A PD 60X DPI series device is equipped with 2 different memory types, with different characteristics. These memory types are described in the following.

The RAM memory is battery backed, and is used for static and temporary local and global Process-Pascal variables and the Process-Pascal stack. Data in RAM is preserved after a power failure, but not after a master reset of the device.

The FLASH memory can be reprogrammed 100 000 times.

The Program FLASH memory is used for Process-Pascal programs. The Data FLASH memory is used for static, global Process-Pascal variables, which are not changed very often. The FLASH memory is organized into 2 Kbytes blocks. Storing in FLASH memory will take minimum 0.5 ms pr. word. Data in FLASH is preserved, even after applying a master reset to the device. Refer to UserFLASH for further information on how to use FLASH memory for Process-Pascal variables.

# Battery Backup

A PD 600 DPI series device is equipped with a replaceable lithium battery for real time clock and RAM backup. The battery is not rechargeable. If the device is constantly powered, the lifetime of the battery is approximate 7 years. If the device is constantly un-powered, the lifetime of the battery is approximate 3 years.

# Real Time Clock

The devices are equipped with a real time clock circuit with battery backup. Maximum deviation is approximate 3 minutes per month over the full temperature range, and approx. 1 minute per month at 25 °C. The same circuitry is used for the Process-Pascal timer system, ensuring that the real time clock and the Process-Pascal timers.

# Technical Specifications



Dimensions in mm.
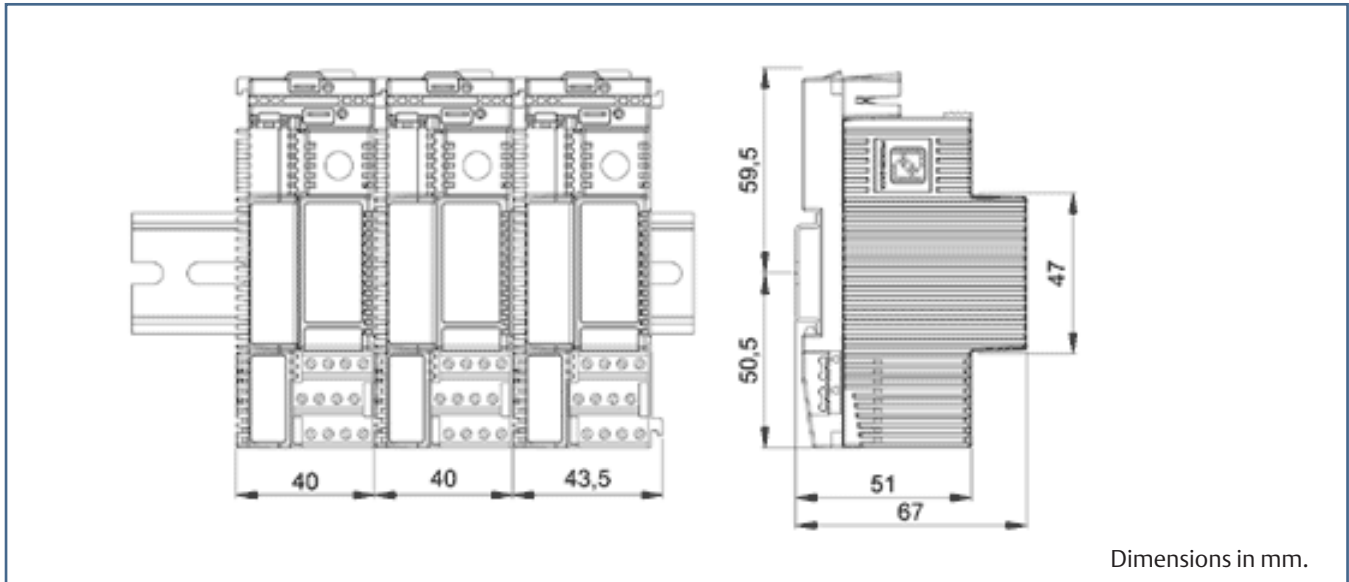
| | |
|---|---|
| **Weight** | 140 grams approx. |
| **Power supply** | 18 to 32 VDC |
| **Ripple** | max. 5% |
| **Power consumption @ 24VDC** | |
|   **Operating** | max. 50 mA |
|   **Current at power up** | max. 100 mA |
| **Operation Temperature** | −25 °C to + 70 °C |
| **Storage temperature** | −40 °C to + 85 °C |
| **Interface** | RS-485, RS-232, Ethernet, Light-Link |
| **Replaceable battery** | Panasonic BR 1632 |

# Maritime Approvals

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

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

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