PD 600x DPI with RS485 Interface

Features

A PD 600 DPI is used to provide local programmable intelligence and act as a gateway between the standard P-NET system (RS485) and the local cluster via Light-Link P-NET. It uses either the BM 002**,** or the BM 010 Base Module.

Communication interfaces

The PD 600 has 2 standard P-NET Communication Channels.
Channel 1 is a standard P-NET RS485 communication channel for communicating with other P-NET devices outside the cluster, i.e. the rest of the system.
Channel 2 is a P-NET Light-Link communication channel intended for communicating with other locally mounted P-NET devices using the optical Light-Link interface.
See General Distributed Process Intelligence information for a general description of the DPI family.

Programming

The PD 600 DPI is programmed in Process-Pascal, which is an extension of standard Pascal, allowing easy declaration and utilisation of P-NET variables and objects. Programs are developed and compiled on a standard PC, then downloaded directly via a P-NET interface. Program code can be downloaded to FLASH memory.
The PD 600 DPI series devices have the channels shown in the following table.

Channel No.	Channel name	Channel description
0	**Service**	Service channel
1	**RS485Port**	Comm. channel, RS485, P-NET mode or Data mode
2	**LightPort**	Comm. channel, Light-Link, P-NET mode or Data mode
3	**LicenceCh**	Channel for holding application licences (available in DPIs with operating system version 1.15 or higher)
5	**OpSysCh**	Program channel for operating system
6	**PPProgCh**	Program channel for Process-Pascal

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.

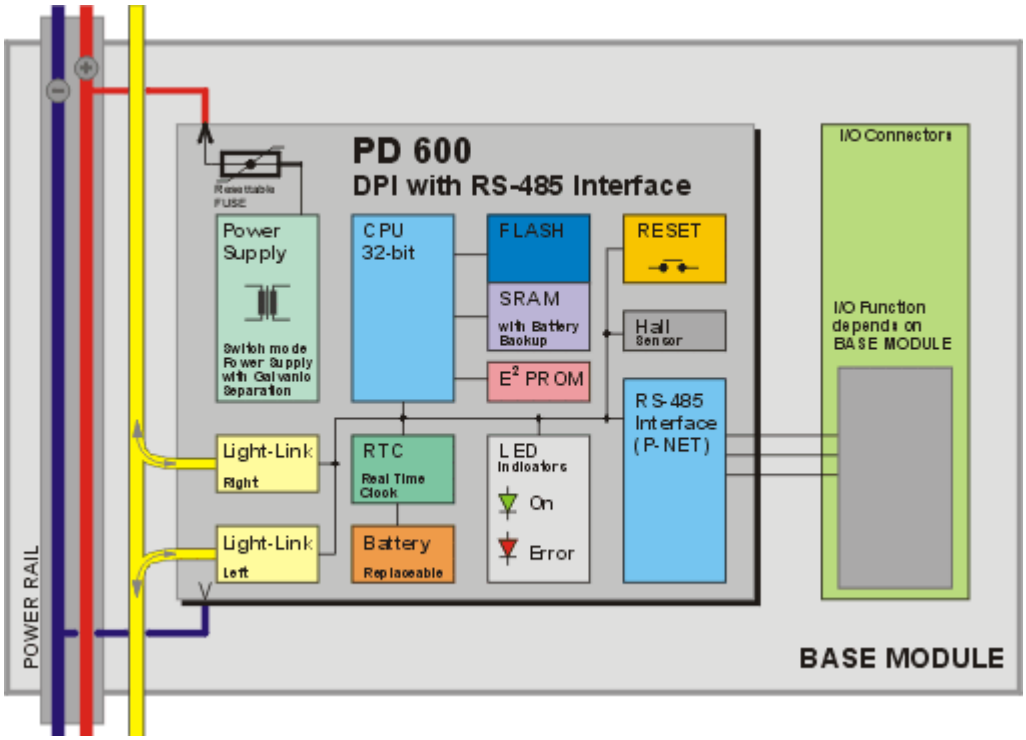
Type	RAM *)	Program FLASH	Data FLASH
PD 600 **S**	64 Kbytes	64 Kbytes	128 Kbytes
PD 600 **M**	480 Kbytes	512 Kbytes	1024 Kbytes
PD 600 **M+**	992 Kbytes	512 Kbytes	1024 Kbytes
PD 600 **L**	480 Kbytes	1024 Kbytes	2048 Kbytes

*) 2 Kbytes of RAM reserved for system variables.

Memory details, Backup battery, LED indicators and real time Clock

PD 600 Block Schematic

The following figure provides a block diagram showing the internal structure of a PD 600 DPI



Distributed Process Intelligence (DPI) - General Information

Introduction

The PD 600 series of Distributed Process Intelligence units - DPIs - has been developed as the third generation of P-NET fieldbus programmable master devices, for use as distributed computing elements within highly complex as well as simple process control systems. Another term for this type of device is *Programmable Automation Controller,* often referred to as PAC.

The PD 600 series is part of a new family of standard process control devices, the M36 family, 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.

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.
- EMC approved (89/336/EEC).

Electrical Specification

DPIs

Power Supply

Power Supply DC: nom. 24.0 V
min. 15.0 V
max. 32.0 V
Ripple: max. 5%

Power consumption @ 24Vdc

Operating: max. 50 mA
Current at power up: max. 100 mA

Interface Light-Link, plus RS-485, RS-232, or Ethernet.

Memory

	Small	Medium	Large
Program FLASH	64 Kbytes	512 Kbytes	1024 Kbytes
Data FLASH	128 Kbytes	1024 Kbytes	2048 Kbytes
RAM	64 Kbytes	Up to 992 Kbytes *)	Up to 480 Kbytes *)

*) Please refer to individual data sheets.

Battery Backup *(RAM and RTC)*

Replaceable battery (Panasonic) BR1632
Replace battery every 5 years. If the operating ambient temperature is over 50°C, replace battery more frequently.
Backup time @ 25°C typ. 1 year

Real Time Clock

Accuracy: Deviation is approx. 3 minutes per month over the full temperature range.
Deviation is approx. 1 minute per month at 25 °C

Ambient Temperature

Operating temperature: -25 °C - 70 °C
Storage temperature: -40 °C - 85 °C

Humidity

Relative humidity: max. 95%

Approvals

EMC	EN61000-6-2, EN61000-6-3
Vibration	IEC 60068-2-6 Frequency range: 2-100 Hz Frequency / amplitude: 2-10 Hz: +/- 5.0 mm 10-100 Hz: +/- 2g Sweep rate: max. 1 octave/min Number of axes: 3 mutually perpendicular

Mounting requirements

The PD 60x DPIs must be mounted in a metal enclosure/panel.

Mechanical details