PD 681 Operator Interface

General Information

The PD 681 is a P-NET slave module, which has been designed as a general-purpose operator input and display module. Other P-NET devices, such as Controllers, Distributed Process Intelligence modules (DPIs), and PCs can write to the display and read any inputs from the keyboard. The front face of the Operator Interface is completely sealed (IP65), and is therefore suitable for use in any industrial environment. The compact design and outstanding environmental characteristics make it highly suitable as a means for local operator intervention in machine, process control and mobile applications.

Features

- Sealed Construction
- 28 Key Membrane click-switch Keyboard
- Backlit Graphics LCD Display
- User definable overlay
- Two keyboard mounted LED indicators
- Acoustic Alarm
- P-NET communication via 4 wire P-NET and Light-Link
- Low power consumption
- Digital I/O channel

Display

The display is a fast graphics LCD (33 by 200 pixels) using Supertwist technology, providing a wide viewing angle. For displaying characters, the display can be configured for two or four lines, over a viewing area of 120 mm * 19.2 mm. An LED backlight is incorporated, and the display is covered by non-reflecting glass.

Keyboard

The keyboard consists of a membrane click-switch foil, having metal domes. It has 28 available keys. Key functions depend entirely upon the type of application, and may be defined by the user program running in a controller, DPI or PC. The unique design includes a self-adhesive keyboard overlay, which offers the ability to customize the unit, in order to provide the ideal operator/instrumentation interface.

Audio/Visual Indicators

The PD 681 has two keyboard mounted LEDs and a built in beeper, which can all be used to indicate events requiring operator intervention. The indicators can be controlled via P-NET.
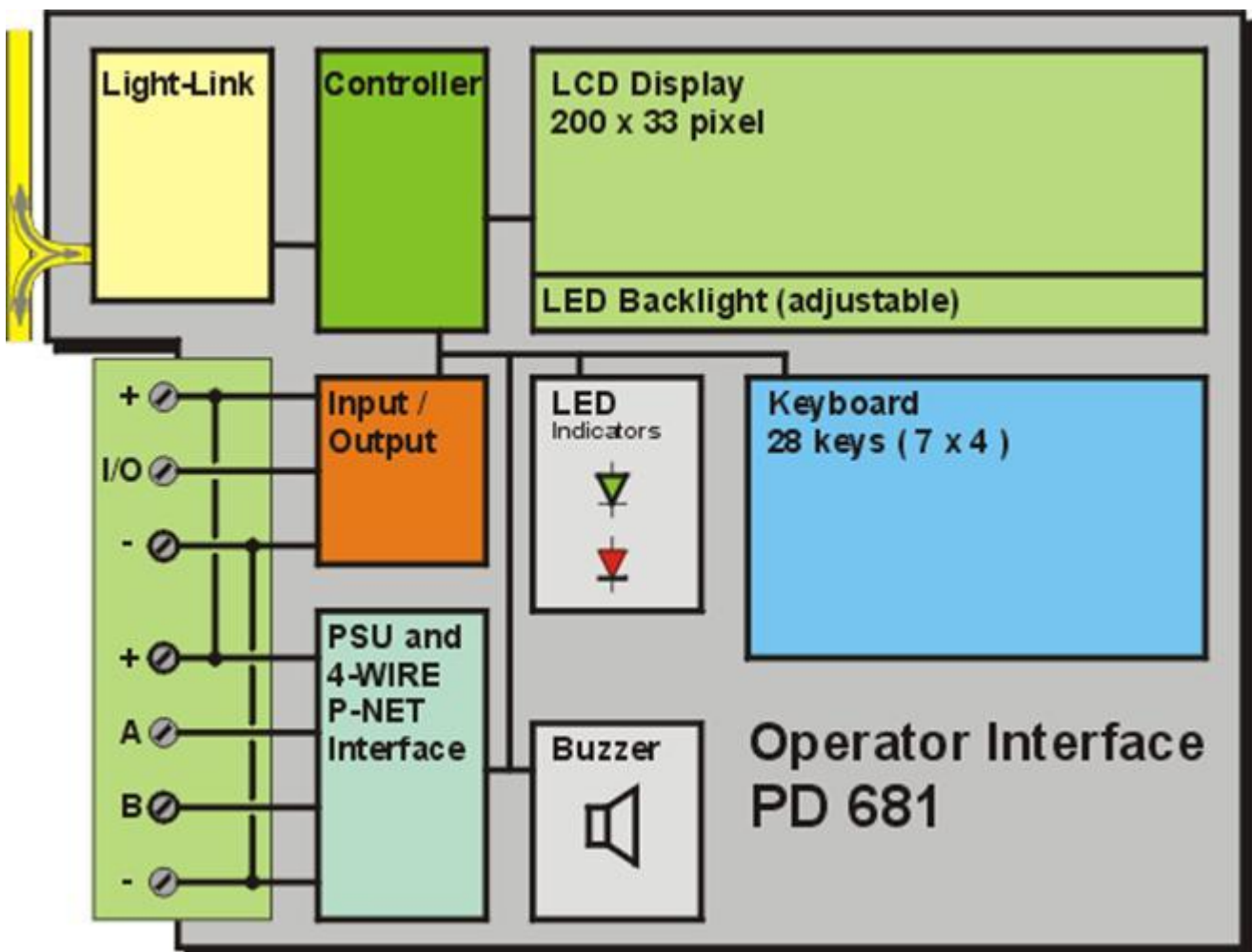
Digital I/O

The unit is provided with one digital I/O for connection to an external signal.

Communication Interfaces

The PD 681 is equipped with a P-NET interface, enabling connection to the electrical RS 485/ 4-Wire P-NET or the optical Light-Link P-NET. Signals on either port type are reflected simultaneously on the other. Connection via Light-Link (e.g. from an M36 cluster), requires the unit to be separately powered. Connection via RS485/4-Wire (from a cluster or another part of the system) uses the available conductors to provide power.

PD 681 Block Schematic

Wiring Diagram
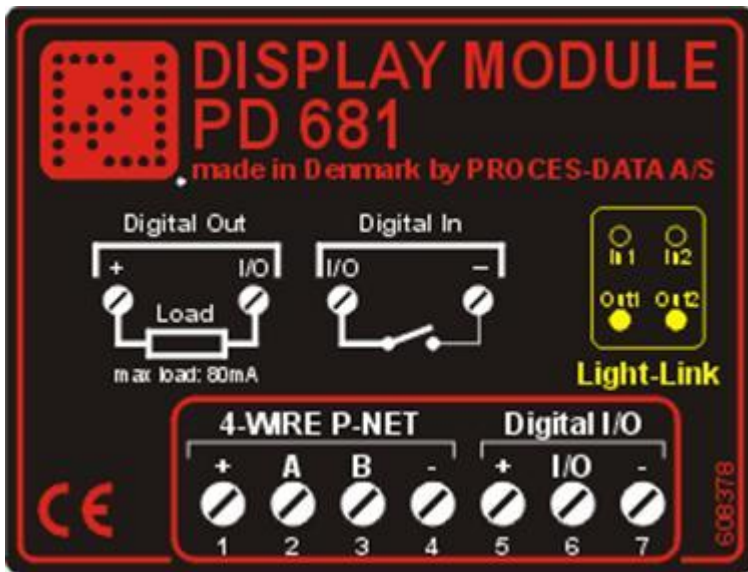
Channel Structure

The PD 681 consists of 3 channels as shown in the table view.

Channel No.	Channel Name	Channel Description
0	Service	General module settings and info.
1	Display	Interface with Display/Keyboard
2	Digital_IO	External I/O

Electrical Specifications

Power supply

Power supply DC:	Nom.	24.0 V
	min.	18.0 V
	max.	32.0 V
Ripple:	max.	5%

Power consumption @ 24Vdc   Max.   1.5 W

Digital Input

Input voltage at ON:	<	3 V
Input voltage at OFF:	>	9 V
Input hysteresis:	min.	0.3 V
Input current at ON:	max.	3.4 mA
Input frequency:	max.	200 Hz

Digital Output

Load current at ON (Sink only)	max.	80 mA

Mechanical Details

Temperature

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

Humidity

Relative humidity:	max. 95%

EMC

EN 61000-6-2, EN 61000-6-3

Vibration
Test method: 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
Sealing
IP65 @ front panel mounting
Housing
Black NORYL GFN

Dimensions: (in mm):