

ODPL

INDICATOR - ALARM UNITS

CE ^{IP 65}
NEMA 4X



- LINEAR INPUT
- INPUT FILTER
- ISOLATED PV RETRANSMISSION
- ISOLATED 24V TRANSMITTER POWER SUPPLY
- 2x INDEPENDENT ALARMS WITH
- PEAK MAX/ MIN LEVEL MEMORY
- RS 485 MODBUS SERIAL COMMUNICATION
- IP 65 AND NEMA 4X FRONT PROTECTION

PROELECTRONIC

OVERVIEW

Designed specifically for applications requiring high accuracy process monitoring and alarm, the DPL is easy to configure and use. Factory calibrated, the DPL accepts universal inputs selectable from the front panel and programmable with filtering and sensor break indication. Display accuracy is 0.1% of span.

A bright display with 5 beacons provides process variable, engineering units, alarm status and other important process and configuration information to the operator. There is also a peak high/ peak low detection feature that memorises the highest and lowest detected process variable reading.

SPECIAL FUNCTIONS

Process Protection Alarm

The DPL has 2 independent latching alarm relays, programmed with password protection for high or low process alarms with a hysteresis of 0.1 to 5% of span.

Alarms can be acknowledged automatically, or from the keypad

Auxiliary Power Supply

An auxiliary power supply for powering external transducers.

Jumper selected isolated outputs at 5, 10, 12 or 24V (25mA max.) are available

Linear Retransmission

A linear analogue retransmission output of the process variable is available as an isolated, 0 to 20mA or 0 to 10V DC signal. This output is programmable and can have a digital filter applied to the retransmission

OPTIONAL FEATURES

Digital Communications

Digital communications featuring an opto-isolated EIA RS-485 communications port with Modbus[®] or JBUS protocol (this option is not available with the retransmission output). A closed logic input enables local operation from the front panel

PRODUCT SPECIFICATIONS

Case:	PC/ABS Black color.
Self-extinguishing degree:	VO according to UL 746C.
Front protection:	designed and tested for IP 65 (*) and NEMA 4X (*) for indoor locations (when panel gasket is installed).
Rear terminal:	rear safety cover. IP20 protection.
Dimensions:	48 x 96mm, DIN 43700, depth 149mm
Weight:	600 g.
Display:	5 yellow/green 7-segment LED's, 13.2mm high.
Indicator:	2 red LED's for alarm annunciator function. 1 red LED for Local/Remote control..
Power supply:	switching type, 85 to 264VAC 50/60Hz or 24VAC/DC ($\pm 10\%$).
Protection:	internal fuse.
Power consumption:	7VA.
Insulation resistance:	$>100M\Omega$ according to IEC 1010-1.
Insulation strength:	1500V rms according to IEC 1010-1.
Common mode rejection ratio:	120dB @ 50/60Hz.
Normal mode rejection ratio:	60dB @ 50/60Hz.
EMC/ Safety:	this instrument is marked CE. It conforms to council directives 89/336/EEC (reference harmonized standard EN-50081-2 and EN-50082-2), 73/23/EEC and 93/68/EEC (reference harmonized standard EN 61010-1).
Installation category:	II.
Sampling time:	100mSec typical.
Display updating time:	400mSec typical.
Temperature drift:	$< 200\text{ppm}/^{\circ}\text{C}$ of the fsv.
Accuracy:	$\pm 0.1\%$ fsv ± 1 digit @ 25°C.
Noise immunity:	Level 3 according to IEC 301-4.
Operative temperature:	0 to 50°C.
Storage temperature:	-20 to +70°C.
Humidity:	-20 to +70°C.

MEASURING INPUTS

The following ranges are keyboard and jumpers selectable.

Input capability:	-20% to +120% of selected scale.
Square root extraction on the measured value:	programmable.
Readout:	keyboard programmable with decimal point in any position. resolution 1 digit for readout up to 10000. resolution 10 digits for readout up to 99990.
Sensor break:	the input open condition will be recognized and displayed only for 4-20mA, 1-5V or 2-10V inputs.

Standard range table

Input	Impedance
0-20 mA	3 Ω
4-20 mA	3 Ω
0-5 V	>200 k Ω
1-5 V	>200 k Ω
0-10 V	>200 k Ω
2-10 V	>200 k Ω

ALARMS

Number of alarm:	two independent alarms.
Threshold:	within the readout range. Resolution and decimal point position as selected for readout range.
Hysteresis:	0.1 to 9.9% of readout span.
Filter:	it is possible to enable a digital filter with the same time constant chosen for the readout.
Type of alarm:	high/Low alarm. direct/Reverse action. automatic/manual reset. mask alarm or standard alarm.
Alarm output:	two contacts SPST NO or NC with jumper selection.
Alarm output update time:	100 ms.
Contact rating:	2A @ 30VDC on resistive load. 0.6A @ 110VDC on resistive load. 0.5A @ 220VAC on resistive load. 0.3A @ 110VDC on inductive load.

AUXILIARY POWER SUPPLY

Isolation: galvanically isolated from instrument inputs and outputs.
Voltage output: 24V DC.
Accuracy: $\pm 5\%$.
Max. power: 1.25Watts.

SERIAL COMMUNICATION INTERFACE

Type: RS-485 optoisolated from instrument inputs/outputs.
Protocol: Polling/Selecting, ModBus and JBus.
Baud Rate: from 150 to 19200 baud.
Format: 7 bits + parity.
8 bits + parity.
8 bits without parity.
Parity: even or odd.
Stop bit: one.
note: serial communication interface and analog retransmission are mutually exclusive.

ANALOG RETRANSMISSION

Output type:	0-20mA, 4-20mA (max load 500 Ω).
Optoisolated:	0-10V, 2-10V (min. load 5 k Ω).
Selection:	by front keyboard from 0 to 99990.
Scaling:	decimal point position as selected for readout value.
Output resolution:	max 0.05% of output span (scaling can worsen output resolution).
Filter:	it is possible to enable a digital filter, on the output retransmission, with the same time constant chosen for the readout.
Accuracy:	0.2% of output span.
Temperature drift:	<100ppm/ $^{\circ}$ C (plus input drift).
Updating time:	100mSec.

note: analog retransmission and serial communication interface are mutually exclusive.

ADDITIONAL FUNCTIONS

Display filter:	digital filter, of first order, on displayed value with configurable time constant (0, 4, 1, 2, 3, 4, 5 seconds).
Peak detection:	automatic detection of maximum and minimum measured value.
Logic Input:	to be driven by dry contact for manual alarm reset or for hold on measure.
Watch dog:	hardware and software is provided for automatic restart.
Protections:	internal jumper for calibration and configuration parameters protection.

HOW TO ORDER

MODEL	INPUT	OPTIONS	POWER SUPPLY
DPL	700 linear input mA, V	21 with 2 alarms 31 with 2 alarms plus RS 485 interface 81 with 2 alarms plus analog retransmission (mA)	4000 100/240V AC 5000 24V AC/DC
DPL	700		