

Programmable LED Indicator

Model 5715

- 4-Digit, 14-Segment LED Indicator
- Input for RTD, TC, mA, V, and Potentiometer
- 4 Relays with Optional Analog Output
- Universal Supply Voltage
- Programmable via Front Keypad or PC



Model No.	Features
5715B	Four (4) Relays
5715D	Four (4) Relays and Analog Output

Application:

- Display for digital readout of temperature, current, voltage or 3-wire potentiometer signals.
- Process control with 4 pairs of potential-free change-over relays and analog output.

Technical Characteristics:

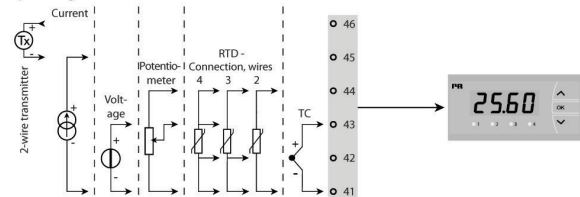
- 4-digit LED indicator with 13.8 mm 14-segment characters. Max. display readout -1999...9999 with programmable decimal point, relay ON/OFF indication.
- Standard operational parameters can be adjusted via the front panel keypad or by way of a PC and the configuration program PReset. Additional configuration options are available through PReset, such as customer defined linearization for special input signals.
- Help text in eight languages selected via front panel keypad.
- A menu item allows the user to minimize the installation test time for the relay outputs by activating / deactivating each relay independently of the input signal.

Mounting/Installation:

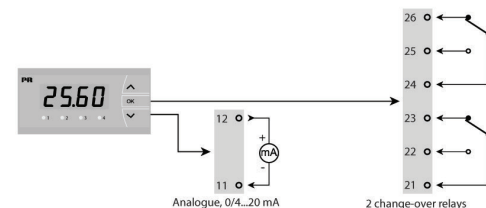
- Front Panel Mount.
- Rubber Gasket (mounted between panel cutout hole and display front panel provides IP65 (NEMA4) rating).
- Optional splash proof cover available for additional protection in extremely wet environments.

Applications

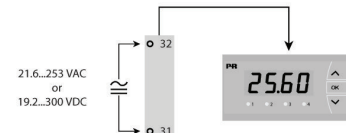
Input signals:



Output signals:



Supply:



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Electrical Specifications

Specifications Range:

-20°C to +60°C

Common Specifications:

Supply voltage, universal..... 21.6...253 VAC, 50...60 Hz
or 19.2...300 VDC

Consumption:

Type	Internal Consumption	Max. Consumption
5715B	3.0 W	3.3 W
5715D	3.5 W	3.8 W

Isolation voltage, test/operation..... 2.3 kVAC / 250 VAC
Signal / noise ratio..... Min. 60 dB (0...100 kHz)
Communications interface..... USB Loop Link
Response time (0...90 %, 100...10 %):
Temperature input..... < 1 s
Current / voltage input..... < 400 ms
Calibration temperature..... 20...28°C
Accuracy, the greater of general and basic values:

General Values		
Input Type	Absolute Accuracy	Temperature Coefficient
All	$\leq \pm 0.1\%$ of readout	$\leq \pm 0.01\%$ of readout / °C

Basic Values		
Input Type	Basic Accuracy	Temperature Coefficient
mA	$\leq \pm 4 \mu\text{A}$	$\leq \pm 0.4 \mu\text{A}/^\circ\text{C}$
Volt	$\leq \pm 20 \mu\text{V}$	$\leq \pm 2 \mu\text{V}/^\circ\text{C}$
Potentiometer	$\leq \pm 0.1 \Omega$	$\leq \pm 0.01 \Omega/^\circ\text{C}$
Pt100	$\leq \pm 0.2^\circ\text{C}$	$\leq \pm 0.02^\circ\text{C}/^\circ\text{C}$
Ni100	$\leq \pm 0.3^\circ\text{C}$	$\leq \pm 0.03^\circ\text{C}/^\circ\text{C}$
TC type: E, J, K, L, N, T, U	$\leq \pm 1^\circ\text{C}$	$\leq \pm 0.05^\circ\text{C}/^\circ\text{C}$
TC type: B, R, S, W3, W5, LR	$\leq \pm 2^\circ\text{C}$	$\leq \pm 0.2^\circ\text{C}/^\circ\text{C}$

EMC immunity influence..... < $\pm 0.5\%$ of readout

Auxiliary supplies:

2 wire supply (pin 46...45)..... 25...15 VDC / 0...20 mA
Wire size, pin 41-46 (max.)..... 1 x 1.5 mm² (16 AWG) stranded wire
Wire size, others (max.)..... 1 x 2.5 mm² (12 AWG) stranded wire
Relative humidity..... < 95% RH (non-cond.)
Dimensions (HxBxD)..... 48 x 96 x 120 mm
Cutout dimensions..... 44.5 x 91.5 mm
Protection degree (mounted in panel)..... IP65
Weight..... 260 g

RTD and Potentiometer Input:

Input Type	Min. Value	Max. Value	Standard
Pt100	-200°C	+850°C	IEC 60751
Ni100	-60°C	+250°C	DIN 43760
Potentiometer	10 Ω	100 k Ω	-----

Input for RTD types:

Pt10, Pt20, Pt50, Pt100, Pt200, Pt250, Pt300, Pt400, Pt500, Pt1000
Ni50, Ni100, Ni120, Ni1000
Cable resistance per wire, RTD (max.)..... 50 Ω
Sensor current, RTD..... Nom. 0.2 mA
Effect of sensor cable resistance
(3- /4- wire), RTD..... < 0.002 Ω / Ω
Sensor error detection, RTD..... Yes
Short circuit detection, RTD..... < 15 Ω

T/C Input:

Type	Min. Value	Max. Value	Standard
B	+400°C	+1820°C	IEC 60584-1
E	-100°C	+1000°C	IEC 60584-1
J	-100°C	+1200°C	IEC 60584-1
K	-180°C	+1372°C	IEC 60584-1
L	-200°C	+900°C	DIN 43710
N	-180°C	+1300°C	IEC 60584-1
R	-50°C	+1760°C	IEC 60584-1
S	-50°C	+1760°C	IEC 60584-1
T	-200°C	+400°C	IEC 60584-1
U	-200°C	+600°C	DIN 43710
W3	0°C	+2300°C	ASTM E988-90
W5	0°C	+2300°C	ASTM E988-90
LR	-200°C	+800°C	GOST 3044-84

Cold junction compensation (CJC)

via internally mounted sensor..... < $\pm 1.0^\circ\text{C}$

Sensor error detection, all TC types..... Yes

Sensor error current:

when detecting..... Nom. 2 μA
else..... 0 μA

Current Input:

Measurement range..... -1...25 mA
Program measurement ranges..... 0...20 and 4...20 mA
Input resistance..... Nom. 20 Ω + PTC 25 Ω
Sensor error detection:
loop break 4...20 mA..... Yes

Voltage Input:

Measurement range..... -20 mV...12 VDC
Program measurement ranges..... 0...1, 0.2...1, 0...10 and 2...10 VDC
Input resistance..... Nom. 10 M Ω

Outputs:

Display:

Display readout..... -1999...9999 (4 digits)
Decimal point..... Programmable
Digit height..... 13.8 mm
Display updating..... 2.2 times / s
Input outside input range is
indicated by..... Explanatory text

Current Output:

Signal range (span)..... 0...20 mA
Programmable signal ranges..... 0...20, 4...20, 20...0, and 20...4 mA
Load (max.)..... 20 mA / 800 Ω / 16 VDC
Load stability..... $\leq 0.01\%$ of span / 100 Ω
Sensor error detection..... 23 / 0 / 3.5 mA / none
NAMUR NE 43 Upscale..... 23 mA
NAMUR NE 43 Downscale..... 3.5 mA
Output limitation:
on 4...20 and 20...4 mA signals..... 3.8...20.5 mA
on 0...20 and 20...0 mA signals..... 0...20.5 mA
Current limit..... ≤ 28 mA

Relay Outputs:

Relay function..... Setpoint
Hysteresis, in % / display counts..... 0.1...25% / 1...2999
On and Off delay..... 0...3600 s
Sensor error detection..... Make / Break / Hold
Max. voltage..... 250 VRMS
Max. current..... 2 A / AC
Max. AC power..... 500 VA
Max. current at 24 VDC..... 1 A

Marine Approval*:

Det Norske Veritas, Ships & Offshore..... Stand. for Certific. No. 2.4

GOST R Approval*..... Certificate available upon request.

Observed Authority Requirements: Standard:

EMC 2004/108/EC..... EN 61326-1
LVD 2006/95/EC..... EN 61010-1
UL, Standard for Safety..... UL 508

Of Span = Of the presently selected range

Loop Link = PC compatible programming software.

*The transmitter is manufactured by PR electronics. All approvals listed are recognized under the PR name.

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