

# 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



### 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:

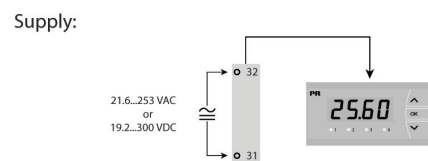
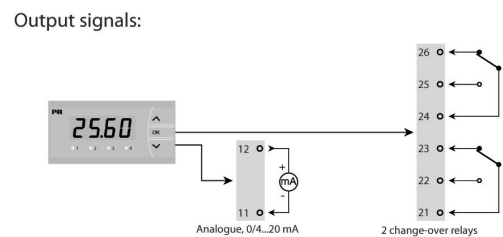
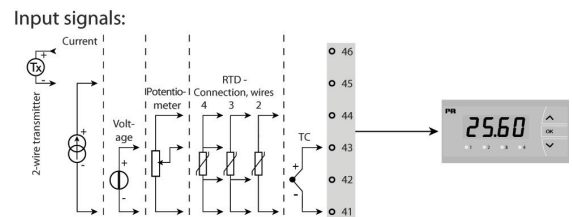
- 4-digit LED indicator with 13.8 mm 14-segment characters. Max. display readout -1999...9999 with programmable decimal point, relay ON/OFF indication.
- Standard operational parameters can be adjusted via the front panel keypad or by way of a PC and the configuration program PReset. Additional configuration 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.

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

### Applications



**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	≤ ±0.1% of readout	≤ ±0.01% of readout / °C

Basic Values		
Input Type	Basic Accuracy	Temperature Coefficient
mA	≤ ±4 µA	≤ ± 0.4 µA/°C
Volt	≤ ±20 µV	≤ ±2 µV/°C
Potentiometer	≤ ±0.1 Ω	≤ ± 0.01 Ω/°C
Pt100	≤ ±0.2°C	≤ ±0.02°C/°C
Ni100	≤ ±0.3°C	≤ ±0.03°C/°C
TC type: E, J, K, L, N, T, U	≤ ±1°C	≤ ±0.05°C/°C
TC type: B, R, S, W3, W5, LR	≤ ±2°C	≤ ±0.2°C/°C

EMC immunity influence ..... < ±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 mm<sup>2</sup> (16 AWG) stranded wire  
Wire size, others (max.) ..... 1 x 2.5 mm<sup>2</sup> (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 kΩ	-----

**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..... < ± 1.0 °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...20mA  
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 MΩ

**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 ..... ≤ 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.

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