Programmable LED indicator

5714

- 4-digit 14-segment LED display
- Input for mA, V, Ohm, RTD, TC and potentiometer
- 2 relays and analog output
- Universal supply
- Front key programmable

Application

- Display for digital readout of current / voltage / resistance / temperature or potentiometer signals.
- Process control with 2 potential-free relays and / or analog output.
- For local readout in extremely wet atmospheres with a specially designed splash-proof cover.

Technical characteristics

- 4-digit LED indicator with 13.8 mm 14-segment characters. Max. display readout -1999...9999 with programmable decimal point and relay ON / OFF indication.
- All standard operational parameters can be adjusted to any application by way of the front function keys.
- Help texts in eight languages can be selected via a menu item.
- PR5714 is available fully-configured according to specifications ready for process control and visualization.
- Inputs, outputs, and supply are floating and galvanically separated.
- In versions with relay outputs the user can minimize the installation test time by activating / deactivating each relay independently of the input signal.

Mounting / installation

- To be mounted in panel front. The included rubber packing must be mounted between the panel cutout hole and the display front to obtain a protection degree of IP65 (type 4X). For extra protection in extreme environments, PR5714 can be delivered with a specially designed splash-proof cover as accessory.

Applications

Input signals:

Output signals:

Supply:

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Environmental Conditions

Operating temperature.......................... -20°C to +60°C
Calibration temperature.......................... 20...28°C
Relative humidity..................................< 95% RH (non-cond.)
Protection degree (mounted in panel).............. IP65 / Type 4X

Mechanical specifications

Dimensions (HxWxD).................................. 48 x 96 x 120 mm
Cut out dimensions.................................. 44.5 x 91.5 mm
Weight approx........................................ 230 g
Wire size, pin 41-46 (max.).......................... 0.05...1.31 mm² AWG 30...16 stranded wire
Wire size, others, max.................................. 0.05...3.31 mm² AWG 30...12 stranded wire
Vibration.................................................. 2...13.2 Hz (±1 mm, 13...100 Hz ±0.7 g)

Common specifications

Supply voltage, universal......................... 21.6...253 VAC, 50...60 Hz or 19.2...300 VDC
Max. required power.............................. 2.5 W (5714A)
Max. required power.............................. 3.0 W (5714B/C)
Max. required power.............................. 3.5 W (5714D)
Internal power dissipation....................... 2.2 W (5714A)
Internal power dissipation....................... 2.7 W (5714B/C)
Internal power dissipation....................... 3.2 W (5714D)

Isolation voltage

Isolation voltage, test / working.................. 2.3 kVAC / 250 VAC

Response time

Temperature input, programmable
(0...90%, 100...10%)................................. 1...60 s
mA / V input (programmable)........................ 0.4...60 s

Auxiliary supplies

2-wire supply (pin 46...45).......................... 25...15 VDC / 0...20 mA
Signal / noise ratio................................... Min. 60 dB (0...100 kHz)
Accuracy............................................. Better than 0.1% of sel. range
EMC immunity influence............................. < ±0.5% of readout

Input specifications

RTD input

RTD type.............................................. Pt10/20/50/100/200/250; Pt300/400/500/1000; Ni50/100/120/1000; Cu10/20/50/100
Cable resistance per wire......................... 50 Ω (max.)
Sensor current....................................... Nom. 0.2 mA
Effect of sensor cable resistance
(3-4-wire)............................................ < 0.002 Ω / Ω
Linear resistance input

Linear resistance min...max.......................... 0 Ω...10000 Ω
Potentiometer input

Potentiometer min...max............................ 10 Ω...100 kΩ

TC input

CJC via int. mounted sensor........................ ±(2.0°C + 0.4°C * ΔT)

Sensor error detection............................. Yes
Sensor error current: When detecting / else........................................ Nom. 2 μA / 0 μA

Current input

Measurement range.................................. 0...20 mA and 4...20 mA
Programmable measurement ranges.............. 0...20 and 4...20 mA
Input resistance................................. Nom. 20 Ω + PTC 25 Ω
Sensor error detection............................. Loop break 4...20 mA

Voltage input

Measurement range.................................. 0...12 VDC
Programmable measurement ranges.............. 0/0.2...1; 0/2...10 VDC
Input resistance................................. Nom. 10 MΩ

Output specifications

Display

Display readout................................. -1999...9999 (4 digits)
Decimal point...................................... Programmable
Digit height........................................ 13.8 mm
Display updating.................................. 2.2 times / s

Current output

Signal range...................................... 0...20 mA
Programmable signal ranges...................... 0...20/4...20/20...0/20...4 mA
Load (@ current output)............................ ≤ 800 Ω
Load stability...................................... ≤ 0.01% of span / 100 Ω
Sensor error indication............................. 0 / 3.5 / 23 mA / none
NAMUR NE43 Upscale/Downscale............... 23 mA / 3.5 mA
Output limitation, on 4...20 and 20...4 mA signals.................. 3.8...20.5 mA
Output limitation, on 0...20 and 20...0 mA signals.................. 0...20.5 mA
Current limit..................................... ≤ 28 mA

Relay output

Relay functions................................. Setpoint
Hysteresis......................................... 0...100%
ON and OFF delay................................. 0...3600 s
Sensor error reaction.............................. Break / Make / Hold
Max. voltage........................................ 250 VAC / VDC
Max. current........................................ 2 A
Max. AC power...................................... 500 VA
Max. DC current, resistive load ≤ 30 VDC.......................... 2 ADC
Max. DC current, resistive load > 30 VDC.......................... See manual for details

Observed authority requirements

EMC.................................................. 2014/30/EU
LVD.................................................. 2014/35/EU
RoHS............................................... 2011/65/EU
EN.................................................. TR-CU 020/2011

Approvals

DNV-GL Marine.................................... Stand. 1 Certif. No. 2.4
EU RO Mutual Recognition Type
Approval........................................ MR A00000002
UL.................................................. UL 508 / C22.2 no. 14