

PROGRAMMABLE LED INDICATOR



- 4-digit LED indicator
- PC-programmable
- Scaling by front function keys
- 2 relay outputs
- Current / voltage or temperature input
- Front IP65 enclosure



In general:

The 5514 with 2 relay outputs is designed for digital readout of current / voltage or temperature signals.

The 5514 A1 with temperature input can measure signals from standard Pt100 and thermocouple sensors, as well as mV signals.

The 5514 A2 with current and voltage input can be programmed in ranges of max. 100 mA and 250 VDC and contains a transmitter supply.

As both types are galvanically separated, both grounded and floating signals can be measured.

The 5514 is delivered fully-configured acc. to specifications. Alternatively, by way of the programming kit Loop Link and a PC, you can configure the unit yourself. By way of the front function keys, display readout, placement of decimal point, and trip amplifiers can be scaled when activated in the software.

0 and 100% process calibration is possible by way of Loop Link.

Input types for 5514 A1:

RTD input for Pt100/Ni100 in temperature ranges acc. to IEC 751 and DIN 43760. By way of Loop Link, the cable resistance can be measured and compensated at a 2-wire connection. Automatic cable compensation at 3- or 4-wire connection.

Selectable sensor error detection.

Thermocouple input (TC) for standard thermocouples in temperature ranges acc. to IEC 584, DIN 43710, or ASTM E988-90.

Internal CJC with Pt100 sensor in the terminal (optional - type 5914), external CJC with Pt100/Ni100 at 2-wire connection, or fixed CJC (thermostat box).

Selectable sensor error detection.

Resistance input for Ohmic resistance measurement, max. range 5000 Ω . Automatic cable compensation at 3- or 4-wire connection.

mV input for DC voltage signals.

Input types for 5514 A2:

Current input for signals of max. 100 mADC. The input is protected by a PTC resistor.

Voltage input for signals of max. 250 VDC.

Auxiliary supply 19.5 VDC / 20 mA for supply of 2-wire transmitters.

Linearisation is possible acc. to your specifications.

Display:

4 red 14.2 mm LED digits. Max. readout ± 9999 with selectable decimal point. Scaling either by the programming kit Loop Link or the front keyboard. Reversible readout. If the input is outside the measurement range, the display shows either "In.HI" or "In.LO".

For indicators with temperature input, sensor errors are indicated by "SENS" in the display. Test of display and LEDs is possible by the front keys. Access to change of parameters can be blocked by a password. 2 green LEDs indicate the tendency of the input signal.

Relay outputs:

Selected as either a make or a break function. The relays can be used as a trip amplifier and / or sensor / cable error alarm for TC, RTD, and resistance inputs.

2 yellow front LEDs indicate the relay status. The relays can be set up with either delayed on or off. Active relay can be selected for either an increasing or decreasing signal. The arrow keys can be used for fast change of the set point.

Set-up:

Loop Link contains PReset software, adapter box, cable etc. The adapter box is galvanically isolated which protects the PC. The communication is a two-way communication, which means that the present set-up including series / tag number can be retrieved from the indicator.

Parameters that can be changed by the front keys are marked by ## in the OPTIONS INDEX.

Electrical specifications:

Specifications range:

-20°C to +60°C

Common specifications:

Supply voltage:

5514A-A	103.5...126.5 VAC, 50...60Hz
5514A-B	207...253 VAC 50...60Hz
5514A-D	19.2...28.8 VDC / 21.6...26.4 VAC, 50...60Hz
Internal consumption.....	< 3.5 W
Max. consumption.....	4 W
Isolation voltage test / operation.....	3.75 kVAC / 250 VAC
Communication	Loop Link
Response time (programmable)	1...60 s
Signal dynamics, input.....	20 bit
Calibration temperature.....	20...28°C
Temperature coefficient.....	< 0.01% of span/°C
Linearity error	≤ ±0.1% of span
Effect of supply voltage change.....	≤ 0.002% of span / % V
Auxiliary voltage 5514 A2:	
2-wire supply (pin 44...42).....	≥ 19.5 VDC / 20 mA
EMC immunity influence	< ±0.5% of span
Max. wire size.....	1 x 2.5 mm ² stranded wire
Screw terminal torque	0.5 Nm
Relative air humidity	< 95% RH (non-cond.)
Dimensions (HxWxD).....	48 x 96 x 120 mm
Panel cut-out.....	44.5 x 91.5 mm
Tightness (mounted in a panel)	IP65
Weight	330 g

Electrical specifications - INPUT type 5514A1:

TC input:

Type	Min. temperature	Max. temperature	Min. span (5 mV)	Standard
B	+400°C	+1820°C	200°C	IEC584
E	-100°C	+1000°C	50°C	IEC584
J	-100°C	+1200°C	50°C	IEC584
K	-180°C	+1372°C	50°C	IEC584
L	-100°C	+900°C	50°C	DIN43710
N	-180°C	+1300°C	100°C	IEC584
R	-50°C	+1760°C	200°C	IEC584
S	-50°C	+1760°C	200°C	IEC584
T	-200°C	+400°C	50°C	IEC584
U	-200°C	+600°C	75°C	DIN43710
W3	0°C	+2300°C	200°C	ASTM E988-90
W5	0°C	+2300°C	200°C	ASTM E988-90

Max. offset..... 50% of selec. max. value

Basic accuracy:

Type E, J, K, L, N, T, U	< ±1°C
Type B, R, S, W3, W5	< ±2°C
Cold junction compensation	< ±1°C
Temperature coefficient	
Type E, J, K, L, N, T, U:	
span < 500°C	< ±0.05°C / °C _{amb.}
span > 500°C	< ±0.01% of span/°C _{amb.}
Type B, R, S, W3, W5	< ±0.2°C / °C _{amb.}
Sensor error detection.....	Yes
Sensor error current:	
when detecting.....	Nom. 33 µA
else.....	0 µA

mV input:

Measurement range	0...100 mV
Min. measurement range.....	5 mV
Max. offset.....	50% of selec. max. value
Input resistance.....	Nom. 10 MΩ

RTD / lin. R input:

Type	Min. value	Max. value	Min. span	Standard
Pt100	-200°C	+850°C	25°C	IEC 60751
Ni100	-60°C	+250°C	25°C	DIN 43760
Lin. R	0 Ω	5000 Ω	30 Ω	-----

Max. offset.....	50% of selec. max. value
Cable resistance per wire (max.)	10 Ω
Sensor current.....	Nom. 0.2 mA
Basic accuracy	< ±0.2°C
Temperature coefficient:	
Span < 100°C.....	< ±0.01°C / °C _{amb.}
Span > 100°C.....	< ±0.01% of span/°C _{amb.}
Effect of sensor cable resistance	
(3- / 4-wire).....	< 0.002 Ω/Ω
Sensor error detection	Yes

Electrical specifications - INPUT type 5514A2:

Voltage input:

Measurement range	0...250 VDC
Min. measurement range (span).....	50 mVDC
Max. offset.....	50% of selec. max. value
Input resistance ≤ 2.5 VDC	Nom. 10 MΩ
> 2.5 VDC	Nom. 5 MΩ

Current input:

Measurement range	0...100 mA
Min. measurement range (span).....	4 mA
Max. offset.....	50% of selec. max. value
Input resistance:	
Powered unit	10 Ω + PTC (10 Ω)
Non-powered unit	Rshunt = ∞, Vdrop < 6 V

Display:

Display readout	±9999 (4 digits)
Min. display readout (span)	0 counts
Decimal point	Programmable
Digit height	14.2 mm
Display updating.....	2.5 times/s
Input outside input range is indicated by:	
Nominal min. - 7% of span	In.LO
Nominal max. + 3.5% of span	In.HI
Sensor error is indicated in display by	SEnS
Readout > 9999 is indicated by	Flashing 9999

Relay outputs:

Max. voltage.....	250 VRMS
Max. current	2 A / AC
Max. AC power.....	500 VA
Max. current at 24 VDC.....	1 A
Sensor error action.....	Make / break

GOST R approval:

VNIIM, Cert No. Ross DK.ME48.V01899

Observed authority requirements: Standard:

EMC 2004/108/EC	
Emission and immunity	EN 61326
LVD 73/23/EEC.....	EN 61010-1
PELV/SELV.....	IEC 364-4-41
	EN 60742

Of span = Of the presently selected range

OPTIONS INDEX FOR THE 5514 PROGRAMMABLE LED INDICATOR:

(Use this as a checklist when ordering configured units)



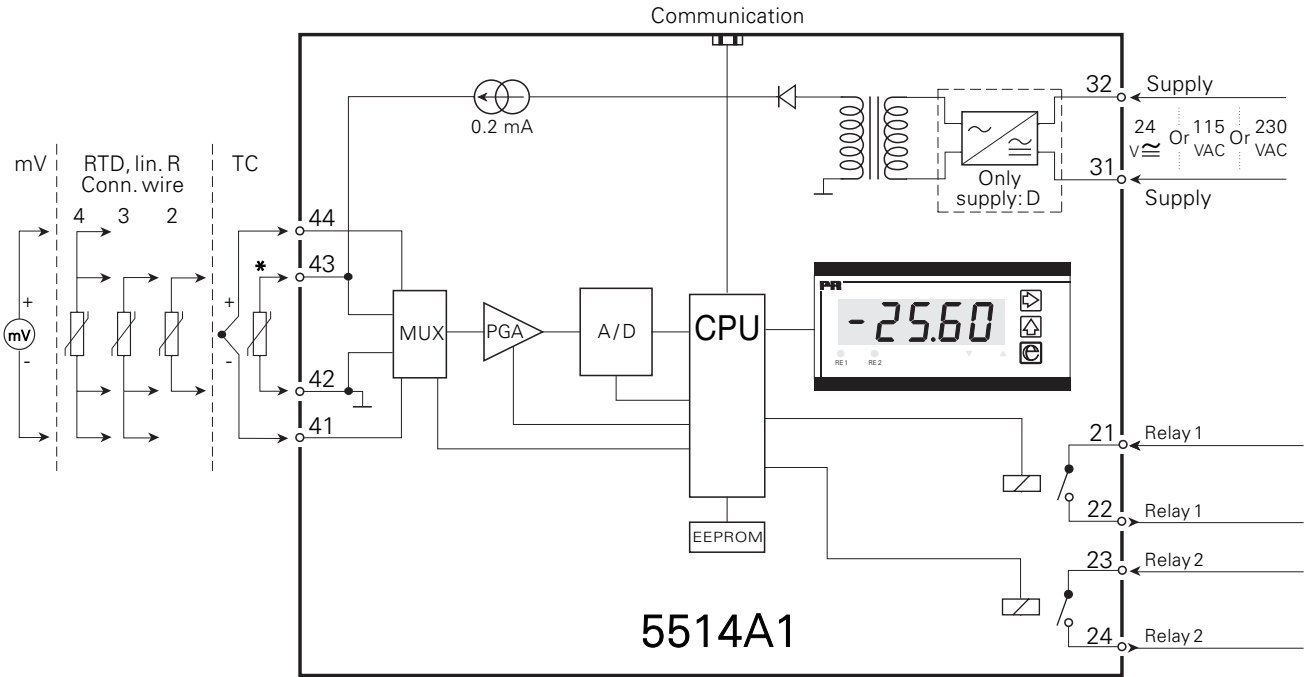
Programmable via front keys

Order : 5514

Type	Display	Input	Supply
5514	LED	: A RTD / TC / mV / R : 1 mV / V / mA : 2	115 VAC : A 230 VAC : B 24 VDC / 24 VAC : D

Note! For TC inputs with internal CJC, remember to order the CJC connector type 5914.

Block diagram: 5514A1



* Accessories: 5914 CJC connector.

Block diagram: 5514A2

