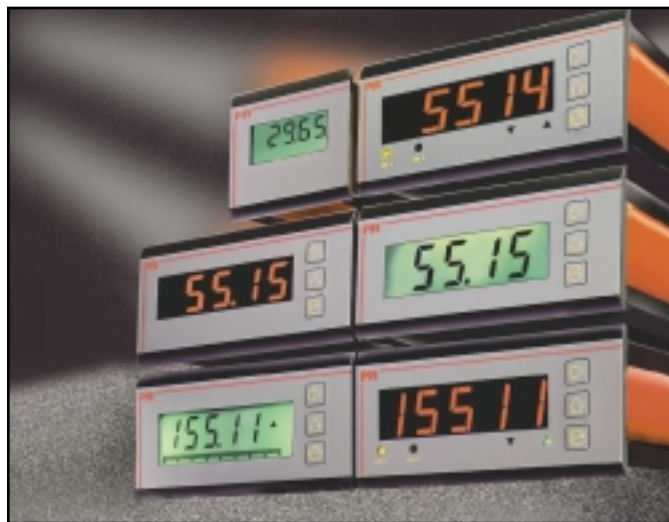


# PROGRAMMABLE LED INDICATOR



- 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, and 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 5905 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 5905.

## Input types for 5514 A1:

**RTD input** for Pt100/Ni100 in temperature ranges acc. to IEC 751 and DIN 43760. By way of the 5905, the cable resistance can be measured and compensated at a 2-wire connexion. Automatic cable compensation at 3- or 4-wire connexion.

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 connexion, or fixed CJC (thermostat box).

Selectable sensor error detection.

**Resistance input** for Ohmic resistance measurement, max. range 5000  $\Omega$ . Automatic cable compensation at 3- or 4-wire connexion.

**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** 20 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  $\pm 9999$  with selectable decimal point. Scaling either by the programming kit 5905 or the front key-board. 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:

Are 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 5905 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 .....	115 VAC ±10%, 50...60Hz
5514A-B .....	230 VAC ±10%, 50...60Hz
5514A-D .....	24 VDC ±20%/
	24 VAC ±10%, 50...60Hz
Internal consumption .....	< 3.5 W
Max. consumption.....	4 W
Isolation voltage test / operation.....	3.75 kVAC / 250 VAC
Communication .....	Loop Link 5905
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 .....	≥ 20 VDC / 20 mA
EMC immunity influence .....	< ±0.5% of span
Max. wire size.....	1 x 2.5 mm <sup>2</sup>
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)	Norm
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 .....

Temperature coefficient

Type E, J, K, L, N, T, U:

span < 500°C .....

span > 500°C .....

of span/°C

Type B, R, S, W3, W5.....

Sensor error detection.....

Sensor error current:

when detecting.....

else.....

#### mV input:

Measurement range .....

Min. measurement range .....

Max. offset.....

Input resistance.....

### RTD / lin.R input:

Type	Min. temp./Ω	Max. temp./Ω	Min. span temp./Ω	Max. offset of selec. max value
Pt100	-200°C	+850°C	25°C	50%
NI100	-60°C	+250°C	25°C	50%
Lin. R	0 Ω	5000 Ω	30 Ω	50%

Cable resistance per wire (max.) .....

Sensor current.....

Basic accuracy.....

Temperature coefficient:

Span < 100°C .....

Span > 100°C .....

of span/°C

Effect of sensor cable resistance

(3- / 4-wire).....

Sensor error detection .....

### Electrical specifications - INPUT type 5514A2:

#### Voltage input:

Measurement range .....

Min. measurement range (span).....

Max. offset.....

Input resistance ≤ 2.5 VDC.....

> 2.5 VDC .....

#### Current input:

Measurement range .....

Min. measurement range (span).....

Max. offset.....

Input resistance:

Powered unit .....

Non-powered unit .....

#### Display:

Display readout .....

Min. display readout (span) .....

Decimal point .....

Digit height .....

Display updating .....

Input outside input range is

indicated by:

Nominal min. - 7% of span .....

Nominal max. + 3.5% of span.....

Sensor error is indicated in

display by .....

Readout > 9999 is indicated by .....

#### Relay outputs:

Max. voltage.....

Max. current .....

Max. AC power.....

Max. current at 24 VDC.....

Sensor error action .....

### Observed authority requirements: Standard:

EMC 89/336/EEC, Emission.....

Immunity.....

Emission and immunity.....

LVD 73/23/EEC.....

PELV/SELV .....

EN 60 742

Of span = Of the presently selected range

# OPTIONS INDEX FOR THE 5514 PROGRAMMABLE LED INDICATOR:

(Use this as a checklist when ordering configured units)

TYPE 5514A1 INPUT: RTD / TC / Lin.R. / mV				TYPE 5514A2 INPUT: mA / Voltage	
<b>RTD type:</b>  Pt100 (DIN/IEC) Ni100  Specify type : ____ Specify range °C: ____	<b>Thermocouple type:</b>  Pt30%Rh-Pt6%Rh : type B NiCr-CuNi : type E Fe-CuNi : type J NiCr-Ni : type K Fe-CuNi : type L NiCrSi-NiSi : type N Pt13%Rh-Pt : type R Pt10%Rh-Pt : type S Cu-CuNi : type T Cu-CuNi : type U W3%Re/W25%Re : type W3 W5%Re/W26%Re : type W5  Specify type : ____ Specify range °C : ____	<b>Linear resistance range:</b>  (30 Ω ≤ range ≤ 5000 Ω)  Specify range Ω : ____	<b>mV range:</b>  5 mV ≤ range ≤ +100 mV  Specify range mV : ____	<b>mA input range:</b>  4 mA ≤ range ≤ +100 mA  Specify range mA : ____	<b>Voltage range:</b>  50 mV ≤ range ≤ + 250 VDC  Specify range VDC : ____

**RTD options:**  
 2-wire, no comp.:  
 3-wire compensation:  
 4-wire compensation:  
 Specify wire : \_\_\_\_

**TC options:**  
 Internal CJC  
 External CJC, Pt100, Ni100  
 Constant CJC: (specify °C)  
 Specify CJC : \_\_\_\_

**Resistance options:**  
 2-wire, no compensation:  
 3-wire compensation:  
 4-wire compensation:  
 Specify wire : \_\_\_\_

**Linearisation:**  
 No linearisation  
 Customer linearisation (specify):

**Response time:**  
 1 s ≤ response time ≤ 60 s  
 Specify response time : \_\_\_\_

**## Relay 1 & 2 options:**  
  
**Relay setpoint:**  
 Setpoint : \_\_\_\_ % / counts  
 Hysteresis : \_\_\_\_ % / counts  
 Relay delay ON / delay OFF  
 Delay : \_\_\_\_ s

**Relay contact function:**  
  
 Contact N.O.  
 Contact N.C.

**Relay action:**  
  
 ## Increase      Off  
 ## Decrease

**Relay sensor error action:**  
  
 (5514A1)  
 Make      Off  
 Break

**## Display options:**  
  
 0% display value : \_\_\_\_ counts  
 100% display value : \_\_\_\_ counts  
  
 Decimal point XXXX:  
 Decimal point XXX.X:  
 Decimal point XX.XX:  
 Decimal point X.XXX:

Blank leading zeros:  
  
 (5514A1)  
 Display sensor error:

**## Options:**  
  
 Front programming:  
 Enable Fast Setting:

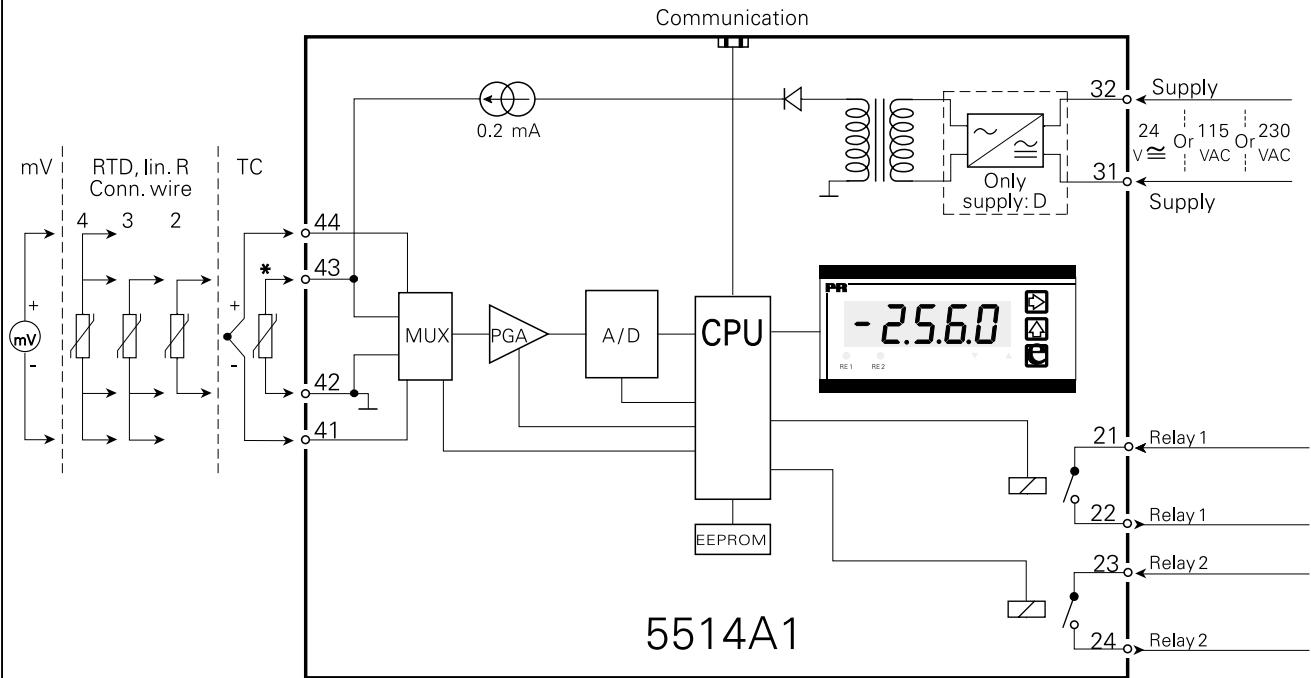
## Programmable via front keys

Order: 5514

Type	Display	Input	Supply
5514	LED : A	RTD/TC/mV/R : 1	115 VAC : A
		mV/V/mA : 2	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

