

Content

0500 - PROCESS - CALIBRATOR - HANDHELD - SIMULATOR

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Voltage and Current (Output) PC-HA_VmA

Order number: PK00XXXX-XXX (without factory calibration certificate)
 PK01XXXX-XXX (with factory calibration certificate)
 PK02XXXX-XXX (with DKD calibration certificate, 1 measurand)



Characteristics

Output, range, accuracy: see table 1	
Battery supply:	9 V (ANSI/NFPA 1604A/ IEC 6LR619V alkaline)
Battery life:	approx. 12 hours at 10 mA
Maximum voltage:	30 V (between 2 terminals or 1 terminal and ground)
Ambient temperature:	operation: 0...50 °C / storage: -10...55 °C
Air humidity:	operation: maximum 80% rH / storage: maximum 90% rH
Dimensions:	200 x 100 x 40 mm (with carrying case)
Weight:	approx. 550 g (with carrying case)
Accessories:	manual, 1 set measuring cable
Standards:	according IEC1010 (EN61010)

Table 1 (valid for temperature range 18...28 °C up to 1 year after calibration)

Output	Range	Output range	Resolution	Accuracy	Notes
Voltage DC	10 V	0,000 up to 11,000 V	1 mV	±0,05% of set value ±2 mV	Maximum output current: 2 mA
Ampere DC	20 mA	0,000 up to 22,000 mA	0,001 mA	±0,05% of set value ±4µA	Maximum load: 1kΩ at 20 mA (see note 1)
Simulation Transmitter	-20 mA	0,000 up to -22,000 mA	0,001 mA	±0,05% of set value ±4µA	Maximum load: 1kΩ bei 20 mA
Current loop power	24 VDC			±10%	Maximum output current: 25 mA

Notes:

- 1) At a battery voltage of 6,8 V the maximum load is 1 kΩ at 20 mA. If the voltage is between 5,8 V and 6,8 V the maximum load is 700 Ω at 20 mA
- 2) Temperature coefficient: ±0,005% of range / °C in temperature ranges 0...18 °C and 28...50 °C

● Thermocouple and Voltage (Output and Input) PC-HA_TC

Order number: PK20XXX-XXX (without factory calibration certificate)
 PK21XXX-XXX (with factory calibration certificate)
 PK22XXX-XXX (with DKD calibration certificate, 1 measurand)



Output, input, range, accuracy: see table 1	
Battery supply:	9V (ANSI/NFPA 1604A/IEC 6LR619V alkaline)
Battery life:	approx. 12 hours at 10 mA
Maximum voltage:	30 V (between 2 terminals or 1 terminal and ground)
Ambient temperature:	operation: 0...50 °C / storage: -10...55 °C
Air humidity:	operation: maximum 80% rH / storage: maximum 90% rH
Dimensions:	200 x 100 x 40 mm (with carrying case)
Weight:	approx. 550 g (with carrying case)
Accessories:	manual, 1 set measuring cable
Standards:	according IEC1010 (EN61010)

Table 2 (valid for temperature range 18...28 °C up to 1 year after calibration)

Output	Range	Output range	Resolution	Accuracy	Notes
Voltage DC	100 mV	-10,00 up to 110,00 mV	0,01 mV	±0,05% of set value ±30 µV	Maximum output current: ±2 mA
	1000 mV	-100,00 up to 1100,00 mV	0,1 mV	±0,05% of set value ±0,3 mV	
Input	Range	Input range	Resolution	Accuracy	Notes
Voltage DC	100 mV	-10,00 up to 110,00 mV	0,01 mV	±0,05% of set value ±30 µV	Input resistance: 1 MΩ
Output / Input	Range	Output range / input range	Resolution	Accuracy	Notes
Thermo- couple	Type R	-40 up to 1760 °C	1 °C	±0,05% of set value ±3 °C (values <100 °C)	Valid for ITS90 temperature tables (Input resistance for input signals: 1 MΩ) (see notes 1 and 2)
	Type S	-20 up to 1760 °C	1 °C	±0,05% of set value ±2 °C (values >100 °C)	
	Type B	400 up to 1800 °C		±0,05% of set value ±3 °C (values 400...600 °C) ±0,05% of set value	
	Type E	-200,0 to 1000,0 °C	0,1 °C	±0,05% of set value ±2 °C (values <-100 °C) ±0,05% of set values ±1 °C (values >-100 °C)	
	Type K	-200,0 to 1370,0 °C	0,1 °C		
	Type J	-200,0 to 1200,0 °C	0,1 °C		
	Type T	-200,0 to 400,0 °C	0,1 °C		
	Type N	-200,0 to 1300,0 °C	0,1 °C		

Notes:

- 1) The accuracy does not include the error of the internal temperature compensation for a sensor. The range of the internal temperature compensation is from 10 to 50 °C with a compensation error up to 0,5 °C.
- 2) Temperature coefficient: ±0,005% of range / °C in temperature ranges 0...18 °C and 28...50 °C

● Thermocouple, Resistance Thermometer, Voltage and Resistance (Output) PC-HA_TEMP

Order number: PK30XXXX-XXX (without factory calibration certificate)
 PK31XXXX-XXX (with factory calibration certificate)
 PK32XXXX-XXX (with DKD calibration certificate, 1 measurand)

Characteristics



Output, input, range, accuracy: see table 3	
Battery supply:	9 V (ANSI/NFPA 1604A/IEC 6LR619V alkaline)
Battery life:	approx. 12 hours at 10 mA
Maximum voltage:	30 V (between 2 terminals or 1 terminal and ground)
Ambient temperature:	operation: 0...50 °C / storage: -10...55 °C
Air humidity:	operation: maximum 80% rH / storage: maximum 90% rH
Dimensions:	200 x 100 x 40 mm (with carrying case)
Weight:	approx. 550 g (with carrying case)
Accessories:	manual, 1 set measuring cable
Standards:	according IEC1010 (EN61010)

Table 3 (valid for temperature range 18...28 °C up to 1 year after calibration)

Output	Range	Output range	Resolution	Accuracy	Notes
Voltage DC	100 mV	-10,00 up to 110,00 V	0,01 mV	±0,05% of set value ±30 µV	Maximum output current: ±2 mA
	1000 mV	-100,00 up to 1100,00 mV	0,1 mV	±0,05% of set value ±0,3 mV	
Resistance	400 Ω	0,0 up to 400,0 Ω	0,1 Ω	±0,05% of set value ±0,2 Ω	Output current ±1 mA (see notes 1 and 2)
Thermo- couple	Type R	-40 up to 1760 °C	1 °C	±0,05% of set value ±3 °C (values <100 °C)	Valid for ITS90 temperature tables (see note 3)
	Type S	-20 up to 1760 °C	1 °C	±0,05% of set value ±2 °C (values >100 °C)	
	Type B	400 up to 1800 °C		±0,05% of set values ±3 °C (values 400...600 °C) ±0,05% of set value	
	Type E	-200,0 to 1000,0 °C	0,1 °C	±0,05% of set value ±2 °C (values <-100 °C) ±0,05% of set value ±1 °C (values >-100 °C)	
	Type K	-200,0 to 1370,0 °C	0,1 °C		
	Type J	-200,0 to 1200,0 °C	0,1 °C		
	Type T	-200,0 to 400,0 °C	0,1 °C		
Type N	-200,0 to 1300,0 °C	0,1 °C			
Resistance thermometer	Pt100	-200 up to 850 °C	0,1 °C	±0,05% of set value ±0,6 °C	Valid for PT100-385 (see notes 1 and 2)
	Cu50	-50,0 up to 150 °C	0,1 °C		

Notes:

- 1) without the corresponding lead resistance
- 2) range of exciting current: 0,5...2 mA, maximum voltage output <2 Volt
- 3) The accuracy does not include the error of the internal temperature compensation for a sensor. The range of the internal temperature compensation is from 10 to 50 °C with a compensation error up to 0,5 °C.
- 4) temperature coefficient: ±0,005% of range / °C in temperature ranges 0...18 °C and 28...50 °C

● Resistance Thermometer and Resistance (Output and Input) PC-HA_RTD

Order number: PK10XXXX-XXX (without factory calibration certificate)
 PK11XXXX-XXX (with factory calibration certificate)
 PK12XXXX-XXX (with DKD calibration certificate, 1 measurand)



Characteristics

Output, range, accuracy: see table 4a	
Input, range, accuracy: see table 4b	
Battery supply:	9 V (ANSI/NFPA 1604A/ IEC 6LR619V alkaline)
Battery life:	approx. 12 hours at 10 mA
Maximum voltage:	30 V (between 2 terminals or 1 terminal and ground)
Ambient temperature:	operation: 0...50 °C / storage: -10...55 °C
Air humidity:	operation: maximum 80% rH / storage: maximum 90% rH
Dimensions:	200 x 100 x 40 mm (with carrying case)
Weight:	approx. 550 g (with carrying case)
Accessories:	manual, 1 set measuring cable
Standards:	according IEC1010 (EN61010)

Table 4a (valid for temperature range 18...28 °C up to 1 year after calibration)

Output	Range	Output range	Resolution	Accuracy	Notes
Ohms	400 Ω	0,0 up to 400,0 Ω	0,1 Ω	±0,05% of set value ±0,2 Ω	output current: ±1 mA (see notes 1 and 2)
Resistance thermometer	Pt100	-200,0 up to 850 °C	0,1 °C	±0,05% of set value ±0,6 °C	output current: ±1 mA table Pt100-385 (see notes 1 and 2)
	Cu50	-50,0 up to 150,0 °C	0,1 °C		output current: ±1 mA (see notes 1 and 2)

Table 4b (valid for temperature range 18...28 °C up to 1 year after calibration)

Input	Range	Output range	Resolution	Accuracy	Notes
Ohms	400 Ω	0,0 up to 450,0 Ω	0,1 Ω	±0,05% of set value ±0,2 Ω	measuring current: ±1 mA (see notes 1 and 2)
Resistance thermometer	Pt100	-200,0 up to 850 °C	0,1 °C	±0,05% of set value ±0,6 °C	measuring current: ±1 mA table Pt100-385 (see notes 1 and 2)
	Cu50	-50,0 up to 150,0 °C	0,1 °C		measuring current: ±1 mA (see notes 1 and 2)

Notes:

- 1) without the corresponding lead resistance
- 2) range of exciting current: 0,5...2 mA, maximum voltage output <2 Volt
- 3) temperature coefficient: ±0,005% of range / °C in temperature ranges 0...18 °C and 28...50 °C

● Current Loop (Output and Input) PC-HA_CL

Order number: PK40XXXX-XXX (without factory calibration certificate)
 PK41XXXX-XXX (with factory calibration certificate)
 PK42XXXX-XXX (with DKD calibration certificate, 1 measurand)



Characteristics

Output, range, accuracy: see table 4a	
Input, range, accuracy: see table 4b	
Battery supply:	9 V (ANSI/NFPA 1604A/IEC 6LR619V alkaline), AC power adapter
Battery life:	approx. 20 hours at 10 mA
Maximum voltage:	30 V (between 2 terminals or 1 terminal and ground)
Ambient	operation: 0...50 °C / storage: -10...55 °C
Air humidity:	operation: maximum 80% rH / storage: maximum 90% rH
Dimensions:	200 x 100 x 40 mm (with carrying case)
Weight:	approx. 550 g (with carrying case)
Accessories:	manual, 1 set measuring cable with alligator clips
Standards:	according IEC1010 (EN61010)

Table 4a (valid for temperature range 18...28 °C)

Output	Range	Output Range	Resolution	Accuracy	Notes
Current	2 mA	-0,000 to 22,000 mA	0,001 mA	±0,05% of reading ±4 µA	20 mA, maximum load resistance 1 kΩ (see 1)
Simulation Transmitter	-20 mA	0,000 to -22,000 mA	0,001 mA	±0,05% of reading ±4 µA	20 mA, maximum load resistance 1 kΩ (see 2)
Loop current	24 V			10%	Maximum output current: 25 mA

Table 4b (valid for temperature range 18...28 °C)

Input	Range	Output Range	Resolution	Accuracy	Notes
Voltage	28 V	-0,200 to 28,000 V	1 mV	±0,02% of reading ±2 mV	Input resistance: 2 MΩ
Current	20 mA	-1,000 to 22,000 mA	0,001 mA	±0,02% of reading ±4 µA	Input resistance: N/A
Loop current	20 mA	0,000 to 22,000 mA	0,001 mA	±0,02% of reading ±4 µA	Loop power supply 24 V

Notes:

- 1) Voltage supply above 6,8 V: the maximum load resistance at 20 mA is 1 kΩ
 Voltage supply between 5,8 V and 6,8 V: the maximum load resistance at 20 mA is 700 Ω
- 2) Range of voltage supply: 5...25 VDC
- 3) Temperature coefficient: ±0,005% of range / °C in temperature ranges 5...18 °C and 28...40 °C

Optional accessories: AC adapter VCPS
 Test line with probe clip