

SIKA Test and Calibration Equipment

SIKA[®]
founded 1901
Dr. Siebert & Kühn GmbH & Co. KG



Temperature Calibrators

Temperature Calibrators series TP 17 000 M

SOLAS ISM regulation

In 1998, the International Safety Management (ISM) code was adopted by IMO and became mandatory on certain ocean going vessels. In 2002 the Safety Of Life At Sea (SOLAS), Chapter IX and the ISM code applies to all ships. Our calibration equipment (temperature calibrators and pressure calibrators) will enable ship owners and marine engineers to comply with the SOLAS regulation for maintenance standards. We advice a recalibration of the calibrator with a cycle between 1 and 2 years depending on strain.

The recalibration comprises:

- **On board:**
SIKA Recalibration Set see page 40
- **SIKA in house:**
Calibrator adjustment (only made by SIKA DKD laboratory) with output certificate

Economic and safe!

Exact temperature measurement and monitoring are "musts" in applications crucial to operational safety of machinery and industrial installations.

Regular inspection of the temperature sensors used in these applications is essential for economic and technical safety reasons and is already prescribed as obligatory in many sectors.

The temperature calibrators and calibration bath are already a part of the standard equipment of the technician in the above listed sectors. These compact devices are easy to transport and easy to operate and have all performance features required for "in-situ inspection".



For inspection of

Thermometers/SIKA thermometers

Inspection is performed by comparison of the temperature measured by the test piece and the block temperature indicated by the calibrator / calibration bath.

Temperature switches/thermostats

The test piece is inserted into the block and connected to the external transducer. The switch setting respective to the switch point is signalled by reached temperature.

Resistance thermometers and thermocouples

The inspection is performed by comparison of the temperature indicated on the external measuring instrument with the reference temperature of the calibrator or calibration bath.

Description

The calibrators of series TP 17 000 M contain an electrically controlled metal block with a bore for the insertion of the test piece. Adapter sleeves are used for test pieces with smaller diameter. The block is mounted in a heat insulated housing.

The complete electronic is located in the front of the calibrator. The required temperature is easily set on the digital controller.

The current temperature will automatically be adjusted to the set value. The current temperature and set temperature are constantly shown on the 2-line, 4-digit, 7-segment LED display.

For Calibration of indicators and loops, multifunction and pocket calibrators are available on page 49.



Technical data and Order code



Device type	TP 17 165 M	TP 17 650 M
Temperature range	-35 °C up to 165 °C	Ambient temp. up to 650 °C
Block temperature control	Digital PID controller, automatic fine adjustment with softstart for fan	
Tolerance	±1 °C	±1 °C
Stability	±0.1 °C	
Block temperature display	4-digit, 2-line, 7-segment LED, 7 mm high, red and green	
Display range	-50.0 °C up to 165.0 °C	0.0 °C up to 650.0 °C
Resolution	1 °C	
Test piece fixture		
Block material	Aluminium	Brass
Block bore	Ø 28 mm	Ø 28 mm
Block depth	150 mm	
Adapter sleeves	Inside diameter between 1.5 mm and 25 mm in steps of 0.5 mm	Inside diameter between 1.5 mm and 25 mm in steps of 0.5 mm
General data		
Power supply	90...240 VAC, 50/60 Hz	230 VAC, ±10 %, 50/60 Hz
Power consumption	approx. 400 VA	approx. 1000 VA
Dimensions L x W x H	approx. 210 x 380 + 50 x 300 mm	approx. 150 x 330 + 70 x 270 mm
Weight	approx. 10.0 kg	approx. 7.5 kg
Options		
Accessories	Aluminium transport case	Aluminium transport case, nylon service case
Power supply	x	115 VAC, ±10 %, 50/60 Hz
Certificates	DKD-Certificates (acc. guideline DKD-R5-4), SIKA certificate	
Engineering unit	Display of temperature in °F	
Order codes		
SIKA Order code	EP17165M281500	EP17650M281500
ISSA-Code	61.187.01	61.187.21
IMPA-Code	65 25 03	65 25 05

Pressure Calibrators

Precision Pressure Calibrator, Series PM

Pneumatic and hydraulic pressure calibrators of series PM distinguish themselves especially by high accuracy of measurement and compact type of construction. Reference pressures of -1 up to 1000 bar can be generated in a fast and simple way. Exact adjustment of the desired pressure is carried out by a precision adjustment valve. The reference pressure is indicated via an analogue precision pressure gauge or a digital LCD.

The instruments under test are connected to the pressure output of the calibrators by a pressure hose and an adapter. For rough use on the spot the calibrators can be supplied in protection class IP68. Power is supplied by batteries or rechargeable accumulators. The automatic measuring range switch of the PM series grants an optimal resolution with any application. Different measurement units can be selected by pressing a function key.

Technical Data				
Type	P 40.2	P 60	P 700.1	P 1000.1
Pressure Medium	air		pure water or hydraulic oil	
Pressure Range	Vacuum -0.95 bar Pressure 40 bar	Vacuum -0.95 bar Pressure 60 bar	with pure water 0...400 bar with hydraulic oil 0...700 bar	with pure water 0...400 bar with hydraulic oil 0...1000 bar
Pressure connection - References - Device under test	½ BSP ½ BSP with quick-coupling and pressure hose (1 m)		¾ BSP female ¾ BSP with quick-coupling and pressure hose (1 m)	
Adapter set	¾ BSP, ½ BSP, ¾ BSP, ½ BSP, NPT ¾, NPT ½, NPT ½ M 12x1.5, M 20x1.5 and ½ BSP male, ¼ BSP male			
Set of seals	flat seals (FEP) and O-rings			
Dimensions - Pump with pressure hose - Pump with accessories in case	approx. 240 x 170 x 50 mm approx. 450 x 370 x 110 mm		approx. 236 x 159 x 70 mm approx. 360 x 320 x 130 mm	
Weight - Pump with pressure hose - Pump with accessories in case	approx. 1.1 kg approx. 4.2 kg		approx. 1.8 kg approx. 4.8 kg	











P40.2 / P 60



P 700.1 / P 1000.1

Combinations

	 Reference E (0.5% FS / Range: 0...350 bar) 	 Reference D (0.1% FS / Range: 0...1000bar) 
 P 40.2	PM 40.2 E (40 bar) 0.5 % FS	PM 40.2 D (40 bar) 0.1 % FS
 P 60	X	PM 60 D (60 bar) 0.1 % FS
 P 700.1	PM 700.1 E (350 bar) 0.5 % FS	PM 700.1 D (350 bar) 0.1 % FS (700 bar) 0.1 % FS
 P 1000.1	X	PM 1000.1 D (1000 bar) 0.1 % FS

All hand-held pressure pumps and reference gauges can be combined for different measuring ranges, resolutions and accuracy classes, as outlined above.

 EXI-Version optional

Order code

Type	SIKA Order code	ISSA-Code	IMPA-Code
Pressure pumps			
P 40.2 (pneumatic)	EPPM0400BL0000	X	65 15 84 - 65 15 91
P 60 (pneumatic)	EPPM0600BL0000		
P 700.1 (hydraulic)	EME8P700100000		
P 1000.1 (hydraulic)	EME8P100010000		
References			
E (40) Measuring range -1...40 bar Resolution 0.01 bar	EME8REF-E-0030	X	X
E (350) Measuring range 0...350 bar Resolution 0.1 bar	EME8REF-E-0300		
D (40) Measuring range -1...40 bar Resolution 0.01 bar	EME8REF-D-0030		
D (60) Measuring range -1...60 bar Resolution 0.01 bar	EME8REF-D-0060		
D (350) Measuring range 0...350 bar Resolution 0.1 bar	EME8REF-D-0300		
D (700) Measuring range 0...700 bar Resolution 0.2 bar	EME8REF-D-0700		
D (1000) Measuring range 0...1000 bar Resolution 0.2 bar	EME8REF-D-1000		

Recalibration Set for Temperature and Pressure Calibrators

All your Calibration Equipment always available on board!

With dry block temperature calibrators of the TP 17000 M series and the pressure calibrators of the PM series, the vessel have necessary calibrated test equipment according to SOLAS and DNV on board. According to these regulations the test equipment for temperature and pressure must be recalibrated.

Because of this we are able to offer our SIKA recalibration set. Including a reference thermometer MH 3710 for standard calibration requirements or MH 3750 for highest accuracy requirements. With the high temperature probe TF650-6-300, you can measure the actual accuracy of the dry block calibrator. For precision pressure measurement we offer the SIKA pressure reference type D. We deliver the complete equipment in a robust case including all necessary certificates.

Benefits

The advantage is that the test equipment doesn't have to be returned to SIKA. It can be left on board and the crew can make the recalibration on their own. Checking the recalibration set is very easy because only the small case has to be returned once a year.

Procedures

Recalibration of temperature calibrators is done with Recalibration Instrument type MH3710 or MH3750 and Temperature Sensor type TF650-6-300. Recalibration of Pressure Calibrators is done with Recalibration Instrument type D. Every calibrator has to be calibrated to 4 measuring points. The Recalibration Set measures the temperatures of the heating block or the pressure of the pressure calibrator and you have to place the measured values on record.

Content

Temperature Reference MH

in combination with Temperature Sensor TF

Measuring input:	Pt100
Measuring range:	-50.00...650.0 °C
Resolution up to:	0.1 °C
Miscellaneous:	min./max.-memory, hold function, auto-off

MH 3710 (Standard-Set)

- Accuracy 0.3% FS

MH 3750 (Premium-Set)

- integrated alarm and data logger function
- User-specific characteristic curve of sensor
- Real-time clock with day, month and year
- Measured value memory 16200
- Accuracy < ±0.2 °C

Sensor TF 650-6-300

High-precision temperature sensor suitable for MH 3710 and MH 3750 long-time temperature stable

Measuring range:	-50...650 °C
Sensor:	stainless steel tube D = 6 mm, L = 300 mm
Cable / Handle:	PVC cable (1 m) with 4-pin Mini-DIN-plug

Pressure Reference Type D

High-precision digital manometer with versatile pressure measuring instrument.

- µC based with internal EEPROM
- piezoresistive pressure transducer
- pressure- and temperature tested
- min./max.-memory, hold function, auto-off

Pressure ranges	-1...40 bar 0.01 0...350 bar 0.1 0...700 bar 0.2
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Accuracy < ±0.1 % FS

Temperature range 0...50 °C

Protection IP65



Certificates

SIKA will issue all necessary certificates so that you are able to fulfill the official requirements.



Order code

	Range	Accuracy	Model	SIKA Order code
Standard Recalibration Set				
Set 1	650 °C	0.3% FS	hand held instrument temperature reference sensor certificate temperature (2 points)	MH 3710 TF650-6-300
	40 bar	0.1% FS	pressure reference certificate pressure (2 points)	Ref D (40)
			transport case	GKK3600-RCS
Set 2	650 °C	0.3% FS	hand held instrument temperature reference sensor certificate temperature (2 points)	MH 3710 TF650-6-300
	700 bar	0.1% FS	pressure reference certificate pressure (2 points)	Ref D (700)
			transport case	GKK3600-RCS
Premium Recalibration Set				
Set 3	650 °C	0.03% FS	hand held instrument temperature reference sensor special linearisation certificate temperature (4 points)	MH 3750 TF650-6-300
	40 bar	0.1% FS	pressure reference certificate pressure (2 points)	Ref D (40)
			transport case	GKK3600-RCS
Set 4	650 °C	0.03% FS	hand held instrument temperature reference sensor special linearisation certificate temperature (4 points)	MH 3750 TF650-6-300
	700 bar	0.1% FS	pressure reference certificate pressure (2 points)	Ref D (700)
			transport case	GKK3600-RCS

High Pressure Calibration Set

High Pressure Calibration Set P-HP

With the Calibration Set P-HP you are able to check your mobile hydraulic power units (1) or fuel-injector test rigs (2). These pneumatically supported high pressure pump systems can be equipped with different tools and are used on board for following operations:

- Setting of injection valves
- Assembling / disassembling cylinder cover
- Fixing fundament
- Creation defined torques

The calibration of built-in pressure gauges allow a reliable statement about the accuracy and is therefore decisive to the quality of operations. The connection of digital pressure reference P-HP will be realized via hose adapter to the pressure output of the controlling system. The high pressure calibration set P-HP includes the pressure reference with connection adapter as well as three high pressure hoses and will be supplied in a service case.



Technical data	
Display	Multifunction LCD 20 x 60 mm
Pressure range	0...2500 bar
Pressure media	special hydraulic oil
Tolerance	±0.1 % FS ±1 digit
SIKA Order code	EME8AEB23HP2K0

Accessoires

- Case
- Adapter with quick coupling nipple 2000 bar (male)
- Different high pressure hoses (0.3 m) with quick coupling
 - 1 x red, 2000 bar, female
 - 1 x blue, 1500 bar, female
 - 1 x blue, 1500 bar, male

High pressure calibration set applications

- Hydraulic power unit e.g. IOPmarine (1)
- Fuel-injector test rig e.g. IOPmarine (2)



1



2

Hand Held Devices

Series MH - for temperature and pressure



The handy and reliable instruments of the MH range are used for measuring and recording humidity, temperature or pressure. The MH range is very flexible and is equally suitable for simple measurements and special applications.

Sensors and probes

The high accuracy of the signal detection and processing is achieved by means of powerful sensors with electronic linearisation of the characteristic curve. The correct probes are available for a wide range of measuring tasks.

Operating comfort

The innovative design of the attractive housing and the advanced technology make the sensors comfortable to operate. In mobile use, all functions can be selected and carried out easily by pressing the buttons. The membrane keypad guarantees protection against dust and moisture.

Multi-function display

As well as MIN/MAX values, hold function and the selected unit of measurement, various calculation values, such as temperature differential, pressure differential, dew point or heat capacity can also be shown on the multi-function display.



Inputs

Automatic sensor recognition through standard DIN socket provides a plug-&-play solution that is easy to install.



Outputs

Extensive alarm functions via the display, freely scalable standard signal output and buzzer and RS 485 interface.



Data storage (log functions)

Some instruments in the MH range can store data. The integrated memory records up to 16200 measurement values. The date and time is automatically added to the values. A real time clock is integrated for this purpose.

Two **log functions** are available:

- In the STORE mode, data is transferred by means of pressing a button and 99 records can be stored. The values stored are shown directly on the display.
- In CYCLE operation, values are recorded automatically at a pre-programmed interval. 1800, 2700 or 5400 records can be stored. The stored values are shown on a PC.



PC-Interface

To transfer the measurement values and stored values to a PC, the majority of the MH instruments are fitted with a serial interface.

The EBS9M software packages are available with extensive recorder and display functions, as is the SOFT3050 for evaluation of the logged and alarm values. Process sequences can then be monitored and analysed clearly using the measurement procedures recorded and visualised, and all data can be exported into standard programs (e.g. Excel).



Alarm & time displays

A visual and acoustic warning signal indicates when measurements exceed or fall below a programmed alarm point. Transmission via PC is also possible. All data can be displayed with the year and date, thanks to the real time clock.



User-defined characteristic curve MH3750

With this function, customer-specific curves can be used, alongside the standard calculation of the resistance/temperature characteristic curve in compliance with EN60751.

The MH3750 has a very high accuracy of measurement. In order to be able to exploit this high degree of accuracy, appropriate high-quality temperature sensors must be used. Various standard classes of accuracy are available for this purpose.

For applications that require a very high degree of accuracy which is higher than the accuracy of the sensor itself, it is recommended that the sensor be calibrated to the MH3750 by means of a user-defined characteristic curve.



Explosion protection

Hand held pressure measuring devices and pressure sensors are available in EXI versions (EEx ib IIC T4-03ATEX0136X).

Optional for MH 3161 and MH 3181

Series MH - for temperature



MH 175 / MH 3750



MH 3710 / MH 1150

Technical data				
Type	MH 175	MH 3710	MH 3750	MH 1150
Measurement input	Pt1000	Pt100		TC-K
Measuring ranges	-70.0...199.9 °C	-199.99...199.99 °C 200.0...850.0 °C		-50...1150 °C
Resolution	0.1 °C	0.01°C / 0.1 °C autorange		1 °C
Units	°C	°C / °F		°C
Display	3 ½ -digit	2 x 4 ½ -digit		3 ½ -digit
Linearisation	Offset/Slope	Offset/Slope	Offset/Slope 50 supporting points	Offset/Slope
Inputs	1	1	1	1
Log Function	×	×	✓	×
SIKA Oder code	EME8GMH1750000	EME8GMH3710000	EME8GMH3750000	EME8GMH1150000
ISSA-Code	61.176.01	×	×	×
IMPA-Code	65 18 11	×	×	×



MH 1170



MH 3210 / MH 3230 / MH 3250

Technical data				
Type	MH 1170	MH 3210	MH 3230	MH 3250
Measurement input	TC-K	TC-K/J/S/T/N		
Measuring ranges	-65...199.9 °C 200...1150 °C	-199.9...199.9 °C 200...1750 °C		
Resolution	0.1°C / 1 °C	0.1°C / 1 °C		
Units	°C / °F	°C / °F		
Display	3 ½ -digit	2 x 4 ½ -digit		
Linearisation	Offset/Slope	Offset		
Inputs	1	1	2	2
Log function	×	×	×	✓
SIKA Oder code	EME8GMH1170000	EME8GMH3210000	EME8GMH3230000	EME8GMH3250000
ISSA-Code	×	×	×	×
IMPA-code	×	×	×	×

Series MH - for pressure



 MH 3161 / MH 3181



MH 3111 / MH 3151 / MH 3156

Technical data					
Type	MH 3161	MH 3181	MH 3111	MH 3151	MH 3156
Measurement input	Internal Sensor		External Sensor		
Measuring ranges	Mod. 01 (-1...25 mbar) Mod. 07 (-10...350 mbar) Mod. 12 (0...1300 mbar) Mod. 13 (-100...2000 mbar)		Depends on range of pressure sensor		
Resolution	0.001 mbar		0.001 mbar / 10 mbar		
Units	mbar / bar / KPa / MPa / mmHg / PSI / mH ₂ O				
Display	2 x 4 ½ -digit				
Linearisation	Offset/Slope		Offset/Slope		
Inputs	1	1	1	1	2
Log function	×	✓	×	✓	✓
SIKA Oder code	EME8GMH316107	EME8GMH318107	EME8GMH3111000	EME8GMH3151000	EME8GMH3156000
ISSA-Code	×				
IMPA-Code	×				

Temperature and Pressure Sensors

Pt1000 measurement sensor for MH 175

Type	Range	L [mm]	D [mm]	SIKA Order code	ISSA-Code	IMPA-Code
Standard sensor GTF 175 (Fig. 1)	-70...200 °C	100	3	EME8GTF175000G	61.178.01	651815
Spike sensor GES 175 (Fig. 2)	-70...200 °C	100	3	EME8GES175000G	61.178.02	651816
Surface sensor GOF 175 (Fig. 3)	-70...200 °C	100	3 (head = 4)	EME8GOF175000G	61.178.03	651817
Air/gas sensor GLF 175 (Fig. 6)	-70...200 °C	100	3 (head = 6)	EME8GLF175000G	61.178.04	651818

Pt100 measurement sensor for MH 3710 and MH 3750

Type	Range	L [mm]	D [mm]	SIKA Order code	ISSA-Code	IMPA-Code
Standard sensor GTF 401 (Fig. 1)	-50...400 °C	150	3	EME8GTF401000G	61.178.10	651821
Spike sensor GES 401 (Fig. 2)	-50...400 °C	150	3	EME8GES401000G	61.178.11	651822
Surface sensor GOF 401 (Fig. 3)	-50...400 °C	150	3 (head = 4)	EME8GOF401000G	61.178.12	651823
Air/gas sensor GLF 401 (Fig. 6)	-50...400 °C	150	3 (head = 4)	EME8GLF401000G	61.178.13	651824

NiCr-Ni measurement sensor for MH 1150, MH 1170, MH 3210, MH 3250 and MH 3250

Type	Range	L [mm]	D [mm]	SIKA Order code	ISSA-Code	IMPA-Code
Standard sensor GTF 900 (Fig. 1)	-65...1000 °C	130	3	EME8GTF900000G	61.178.10	651826
Spike sensor GES 900 (Fig. 2)	-65...1000 °C	130	3	EME8GES900000G	61.178.11	651827
Inconel sensor GTF 1200/300 (Fig. 1)	-65...1150 °C	300	3	EME8GTF120030G	61.178.12	651828
Surface sensor GOF 130 CU (Fig. 4)	-65...500 °C	130	3 (head = 4)	EME8GOF130CU0G	61.178.13	651830
Surface sensor GOF 130 (Fig. 5)	-65...900 °C	130	8	EME8GOF130000G	61.178.35	651831
Air/gas sensor GLF 130 (Fig. 6)	-65...600 °C	130	3 (head = 6)	EME8GLF130000G	61.178.40	651832

Piezoresistive pressure sensor for aggressive media

PVC cable (1 m) with mini-DIN plug, fitting: st.st. 1/4 BSP A, casing: st.st. IP65

Pressure range	SIKA Order code	ISSA-Code	IMPA-Code
1 bar	EME8GMSD01BAE0	61.242.11	×
7 bar	EME8GMSD07BAE0	61.242.12	×
35 bar	EME8GMSD35BAE0	61.242.15	×
160 bar	EME8GMSD160BAE	61.242.16	×
250 bar	EME8GMSD250BAE	61.242.17	×
400 bar	EME8GMSD400BAE	61.242.18	×

Temperature sensors



Pressure sensor



Hand Held Measuring Instruments for non-contact temperature measurement



SemiTemp 2030 B2



SemiTemp 6080 A1 / SemiTemp 6080 B2



MaxiTemp 24 A3

Type	SemiTemp 2030 B2	SemiTemp 6080 A1	SemiTemp 6080 B1	MaxiTemp 24 A3
Configuration	LC-Display, LOW-Bat., HOLD-function, max-data-store, backlight, laser ON/OFF, tripod mount,			
	Magnet clamp, rubberized casing	Indication of average and difference, LO- and HI-Alarm (buzzer), Data store for 12 values, LOCK-function, Connection for external sensor PT1000 / 2-wire, rubberized casing		Graphic display for 10 measurement results, LO- and HI-Alarm (buzzer)
Measuring range	-32...535 °C	-32...600 °C	-32...760 °C	-30...900 °C
Sight	2-point-laser	point-laser	point-laser	3-point-circle-laser
Optical resolution	16/1 (distance/spot size)	30/1 (distance/spot size)	50/1 (distance/spot size)	60/1 (distance/spot size)
Output	x	x	x	serial interface RS232 / 1mV / °C
Spectral range	8...14 µm (universal)			
Resolution	0.2 °C or 0.5 °F	0.1 °C or 0.2 °F		
Accuracy	±1 % of rdg. or ±3 °C			±0.75 % of rdg. or ±1 °C
Emissivity	0.95 (pre-set)	adjustable 0.30...1.00		adjustable 0.10...1.00
Temperature units	°C / °F switchable			
Power supply	9 V block battery			2 x 1.5 V battery
Dimensions	195 x 135 x 40 mm (WxHxD)			200 x 170 x 50 mm (WxHxD)
Weight	320 g incl. battery			480 g incl. battery
Accessory	Complete with strap and service/transport case			
Explosion protection (optional)	x	x	Model SemiTemp 6080 B1-IS intrinsic safety acc. Factory Mutual (no ATEX)	Model MaxiTemp 24 A3-IS as IS-version EEx ia IIC T4 TÜV 00 ATEX 1597 X
SIKA Order code	EME8RAYST250EU	EME8RAYST60BEU	EME8RAYST80BEU	EME8RAYMX2TD00
ISSA-Code	61.175.05	61.175.10	61.175.12	61.175.15
IMPA-Code	x	x	x	65 18 06

Simulators

Universal Pocket Calibrators and Multifunction Calibrators

Universal pocket calibrator, series UC

- Digital, menu driven value adjustment, 6 keys and navigator
- Background-lit, graphic LC-display, 160 x 160 pixel
- Step-, ramp-, cycle-, HOLD- and scaling functions
- Serial USB PC interface (type mini B)
- Power supply via 4 x 1.5V batteries (AA type)
- Dimensions approx. 160 x 85 x 45 mm / weight approx. 300 g

Universal multifunction calibrator, series MC

- Digital, menu driven value adjustment, 22 keys and navigator
- Background-lit, graphic LC-display, 240 x 320 pixel
- Step-, ramp-, cycle-, HOLD- and scaling functions
- Serial USB PC interface (type B)
- Power supply via internal accumulator incl. power pack (230 VAC)
- Dimensions approx. 210 x 110 x 50 mm / weight approx. 900 g

	UC RTD	UC TC	UC mA/V	MC 50
Signals				
• TC Types	×	J, K, T, R, S, B, C, U, L, N, E	×	J, K, T, R, S, B, C, U, L, N, E
• RTD	Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000, Cu10, Cu50	×	×	Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000, Cu10, Cu50
• Ω	Resistance 0...400 Ω, 0...4000 Ω	×	×	Resistance 0...400 Ω, 0...4000 Ω
• mA	×	×	Current 0(4)...20 mA, 25 mA	Current 0(4)...20mA, 25 mA
• mV	×	Voltage 0...100 mV	×	Voltage 0...100 mV
• V	×	×	Voltage 0...10 V, 25 V, 50 V	Voltage 0...10 V, 25 V, 50 V
• Hz	×	×	×	1...20 kHz
Features	Data logging function via flash memory for 10.000 measured values. Graphic and tabular display of measured values		×	×
Accuracy	±0.012 % of rdg. +K	±0.020 % of rdg. +K	±0.015 % of rdg. +K	±0.017 % of rdg. +K
Resolution	0.01 °C or 0.01 °F and 1...10 mΩ	0.1° C or 0.1 °F and 1 µV	0,1 mA or 0,1 V	6 digits
SIKA Order code	EME8AOCRTD000	EME8AOU0TC000	EME8AOU0CMAV000	EME8AOMC050000



