

# DIGITAL THERMOMETER

for mobile use



## DESCRIPTION:

- light, easy, mobile
- advanced settings optional
- resistant case

## APPLICATION:

- power engineering
- mechanical engineering
- gas distribution
- food industry

## THERMOMETER GMH 1150 BASIC



- basic thermometer for sensors with thermocouple type K



## THERMOMETER GMH 32.. WITH ADVANCED SETTINGS

- thermometer for one or two sensors with thermocouples K, J, N, S, T

## SPECIFICATION:

Hand-held digital thermometers are designed for mobile temperature measurement of liquids, vapour, air and other mediums within temperature range  $-199+1750^{\circ}\text{C}$ .

Thanks to the wide range of applicable sensors the hand-held thermometers may be used in various applications.

Hand-held thermometers are supplied from basic designs showing current temperature only with min/max function up models with advanced settings.

	GMH 1170	GMH 1150/GTH1150
Measure range	-65+199,9°C or -65+1150°C (-85+199,9°F or -85+1999°F)	-50+1150°C
Division	0,1°C or 1°C (0,1°F or 1°F)	1°C
Accuracy (± 1 digit) (for nominal temper.)	-65+199,9°C: ±0,05% of MH ±0,2%FS -65+1150°C: ±0,1 % of MH ±0,2 % FS	1% (from -20+550 or 920-1150°C); 1,5%, (from 550-920°C); from -20-50°C
Temp. sensitivity	0,01 %/K	
Sensor connection	2-pole normalized flat connector; suitable for all thermo sensors NiCr-Ni (type K). Sensor does not come as part of the delivery.	
Display	31-digit, 13mm high LCD	
Reference point	±0,3°C	
Working temperature	-25+50°C	0-45°C
Storing temperature	-25+70 °C	
Sampling	3 measurements per second	
Power supply	battery 9V type IEC6F22 (part of delivery) for model GMH 1150 extra: outlet for ext. DC supply 10,5-12V (suitable AC adapter: GNG10/3000)	
Current consumption	0,15mA	0,4mA
Battery life-time	2000 working hours	700 working hours
Battery condition check	„BAT“	
Dimensions	GTH ...: 106x67x30mm (h x w x d), case made of shock-resistant ABS GMH ...: 142x71x26mm (h x w x d), case made of shock-resistant ABS, front protection IP 65, model 1150 has integrated holder (rest/hanger)	
Weight	135g	150g (GTH 1150), 160g (GMH 1150)
Offset and transconductance	dig.zero value setting + transconduct. correction for increased accuracy	
Function Auto-Off	may be set from 1 up to 120 minut or permanent operation	
Memory min./max.	min. and max. values are stored into the memory	
Function Hold	by pressing the button on the display the last measured value is displayed	



	GMH 3210, 3230, 3250
Thermocouples	J, K, N, S, T J, K, N, S, T J, K, N, S, T
Resolution	0,1°C or 1°C
Measuring range: (choice)	Type K: (MR1) -65+300°C; -199,9+999,9°C; (MR2)-220+1372°C;-220+1372°C the entire selection of ranges is specified in the instruction manual
Accuracy: (choice)	Typ K: (pro MR1) $\pm 0,03\%$ of MV $\pm 0,05\%$ FS $\pm 0,03\%$ of MV $\pm 0,05\%$ FS (T<-60°C) $\pm 0,2\%$ of MV $\pm 0,05\%$ FS (T<-60°C); (for MR2) $\pm 0,08\%$ of MV $\pm 0,1\%$ FS $\pm 0,08\%$ of MV $\pm 0,1\%$ FS (T<-100°C) $\pm 1^\circ\text{C} \pm 0,1\%$ FS (T<-100°C)
Working temperature	-25+50°C
Sensors connection	1 2 2
Display	two 4-digit LCD (12,4mm and 7mm high)
Output	socket for 3 pole connector JACK O3,5mm
Serial interface	through communication convertor GRS 3100, GRS 3105 or USB 3100 N (specific accessories) with galvanic separation, the device may be connected to RS232 interface of USB of a computer
Analog output	x - -
Current consumption	0,3mA; 1,6mA; 1,6mA
Dimensions	142x71x26mm (h x w x d), weight: 155g
Power supply	battery 9V, type IEC 6F22 (part of the supply) or external supply direct current 10,5-12V (suitable AC adapterj: GNG10/3000)
Case	case made of shockproof ABS, front panel with a foil keyboard (protection IP 65), integrated holder

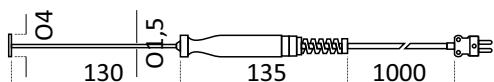


Special functions	GMH 3210	GMH 3230	GMH 3250
Measur. correction	x	x	x
Zero value setting	x	x	x
Differential measur.	-	x	x
Tara/Diff function	-	x	x
Min./Max. alarm	-	-	x
Logger function	-	-	x
Real time	-	-	x

Function	GMH 3210	GMH 3230	GMH 3250
Hold function	x	x	x
Automatic-Off	x	x	x
Low battery indication	x	x	x

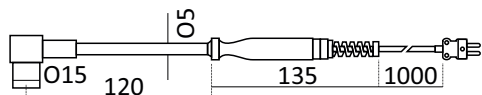
Function		
Correction for surface temper. measurements		when measuring surface temperature it is possible to enter correction factor for compensation of loss caused by heat transfer from the measured surface to the sensor
Offset and zero value setting		by shifting the zero value it is possible to parallelly move the gauges characteristics
Differential measurement		when two sensors are connected, it is possible to display the difference value sensor 1 - sensor 2
Tara/Diff function		difference display „sensor 1 - sensor 2“ may be set to zero value by pressing the button
Analog output		0-1V, freely adjustable resolution 13bit, accuracy 0,05% for nominal value
Min./max. alarm		is activated, when the measured value of the preselected channel (temperature 1, temperature 2 or their difference) exceeds the preset limit value (may be deactivated)
Alarm signalization		3 setting options - off: alarm off; on: alarm on display, interface with aural transducer, no Sound: signalization of alarm on display and interface only
Regulatory function		by means of the switching modul GAM3000 (special accessory) it is possible to regulate external devices (switch on/off) or to use them for alarm purposes
Logger function:	- manual	99 data sets (data selection by means of keyboard or interface)
	- cyclic	9.999 data sets (data selection through interface only), time cycle setting: 1s...1h, start and stop of logger record is done by means of keyboard or interface, for logger data reading it is suggested to use handy software GSOFT 3050 (see accessories)

### Submersible surface sensor, for air and gases GOF 500



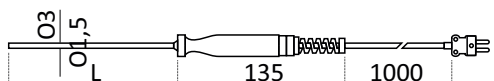
- -65+500°C
- technical parameters: for hard surfaces of all kind, solid copper surface, plastic handle, silicon cable

### Surface sensor GOF 200HO



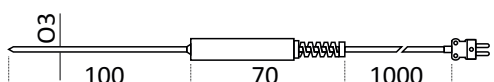
- -65+400°C
- technical parameters: for hard surfaces, measurements in areas of limited height, angular design, elastic bands NiCr-Ni, plastic handle, silicon cable, connector NST 1200

### Submersible sensor GTF 900



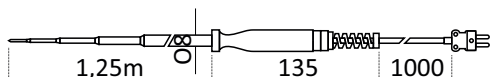
- -65+1000°C
- technical parameters: flexible, well O1,5, L=150mm, silicon cable, other lengths may be ordered on additional charge

### Temperature sensor of core/ food industry GES 21K



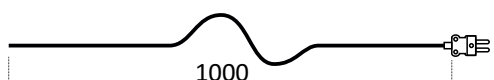
- -50+250°C
- technical parameters: big white teflon handle, waterproof, steamproof, stainless steel protection of cable connection, 1m long teflon cable with free ends

### Needle sensor for grain,compost,etc. GKF 125



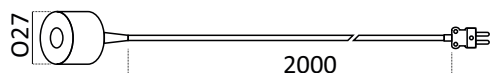
- -65+200°C
- technical parameters: very fast, robust and designed for heavy duty, speed T90~6s
- technical details: steel well V4A, O 8mm gradually narrowing to O 3mm, plastic handle, silicon cable, connector NST 1200

### Wire sensor GTF 300



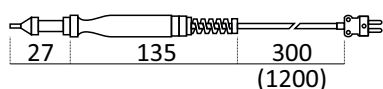
- -50+400°C
- technical parameters: very fast measurement of air, gas, liquid and small surfaces temperatures, thermocouple twisted cables O 0,2mm with teflon insulation, welded measuring tip, very flexible, connector NST 1200

### Surface sensor with magnetic holder GMF 200



- -65+200°C
- technical parameters: designed for surfaces made of magnetically conductive material, suspension measuring probe with metal surface O 5 mm, heavy duty robust design (high magnetic force), 2 m long silicon cable, connector NST 1200

### Sensor of vehicle tyre temperature GRF 200



- -50+200°C
- technical parameters: fast needle sensor with adjustable depth of puncture (0-14 mm), sensor may also be used for other plastic mediums, plastic handle, spiral cable (1,2m when extended), connector NST 1200