

With connection cable to the temperature sensor

## Application

The battery-operated digital thermometer models LILLY<sub>plus</sub> consist of an easy-to-read LC display and a platinum resistance thermometer built into a robust thermometer standard case made of stainless steel. They can be manufactured with the same construction types (according to DIN EN 13190) as mechanical thermometers. They can be applied as an alternative to mechanical thermometers when these reach their limits due to difficult installation conditions, vibrations or accuracy requirements. Due to their high accuracy, the instruments of the LILLY<sub>plus</sub> series are also suitable as an alternative for mercury-in-glass thermometers.

## Standard Versions

### Measuring Element

Platinum measuring resistor Pt1000 according to DIN EN 60751 in 4-wire connection

### Measuring Ranges

-50.0 / +250.0 °C (-58.0 / +482.0 °F)  
-99.9 / +500.0 °C (-147.8 / +932.0 °F)  
Resolution 0.1 K

### Unit

Switchable °C / °F

### Ambient Temperature Ranges

Operation and storage -20 °C to +70 °C (-4 °F to +158 °F)

### Accuracy

±0.1 % FS ±1 digit

### Measuring Rate

Adjustable from 1 s to 30 s

### Display

LC display  
Digit height 25 mm (0.98")

### Battery

AA, 2600 mAh (Li-SOCl<sub>2</sub>), 3.6 V  
Included in the scope of delivery, replaceable by the customer  
Battery life > 1 year, depending on application

### Error Monitoring

Battery voltage, sensor short circuit, sensor break

### Temperature Sensor (Stem)

Up to +250 °C (+482 °F) version as cable sensor with sleeve made of stainless steel 316Ti (1.4571)  
From +250 °C (+482 °F) upwards version as sheathed resistance thermometer  
Max. static operating pressure 25 bar  
Stem types E1 or E5  
Stem Ø dF 6 mm (0.24")  
Connection cable up to +180 °C (+356 °F) made of silicone rubber  
up to +250 °C (+482 °F) made of PFA

### Case

With bayonet ring polished, stainless steel 304 (1.4301), with pressure equalising element

### Nominal Case Size

100 mm (4")



**Degree of Protection** (DIN EN 60529)  
IP65

### Window

Aluminum with PE membrane keypad

### Case Configuration

Connection to temperature sensor  
- with connection cable  
Cable position  
- vertical bottom position  
- lower back position (r)  
Mounting device  
- for bottom cable position  
- back flange for surface mounting (Rh)  
- collar for gauge holder bracket (Mgh)  
- for lower back cable position  
- back flange for surface mounting (rRh)  
- front flange for panel mounting (rFr)

## Ordering Information, Options

See page 4

## Further Options

- Other stem types, e.g. with connection for food / bio / pharmaceutical industries
- Contact stem for temperature measurement at the outside of tanks and pipe barrels
- Position of connection radial at 3 o'clock, 9 o'clock, 12 o'clock
- Shielded cable with spiral protective sleeve
- Pluggable cable with M 12x1 plug connector
- Front foil neutral

## Special Versions Upon Request

- Other stem Ø, connection threads and materials
- Case parts stainless steel 316L (1.4404)
- Other position of connection
- Front foil customised
- Certificates and approvals, e.g. GOST (see also website)

## Accessories

- Thermowells, see data sheet 8.8110 ff.
- Compression fittings
- Gauge holder bracket

[www.armano-messtechnik.com](http://www.armano-messtechnik.com)

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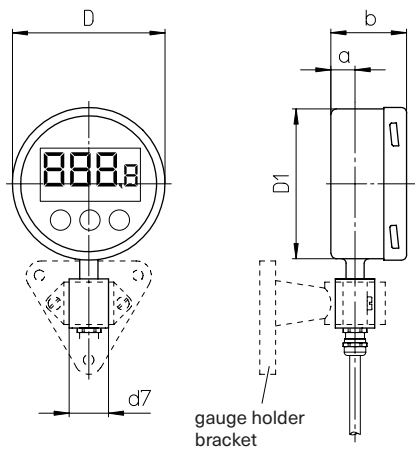
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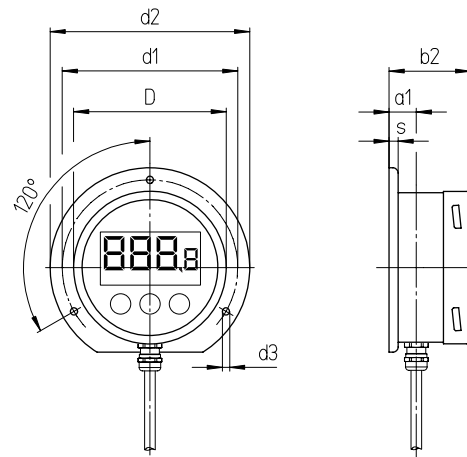
# Cable Position, Code Letters, Dimensional Data and Weight

## Vertical Bottom Cable Position

collar for gauge holder bracket  
code letters **Mgh**

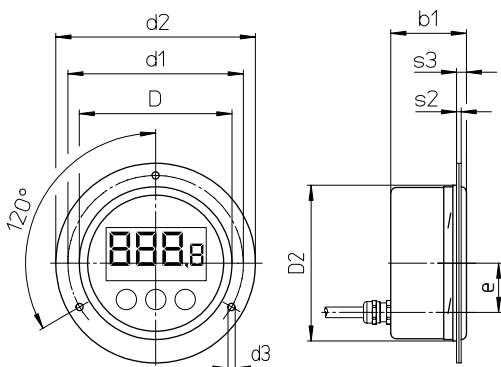


back flange for surface mounting  
code letters **Rh**

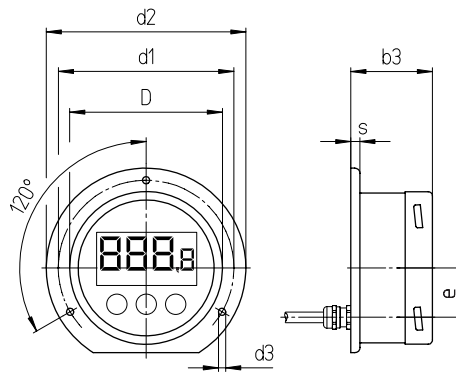


## Lower Back Cable Position

front flange for panel mounting  
code letters **rFr**



back flange for surface mounting  
code letters **rRh**



## Dimensional Data (mm / inch) and Weight (kg / lb)

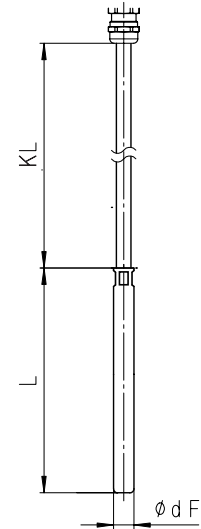
NCS	a	a1	b	b1	b2	b3	D	D1	D2	d1	d2	d3	d5	d7	s	s1	s2	s3	s5	weight
100	15	18.5	50	50	53.5	53.5	101	99	103	116	132	4.8	M4	26	6	1	2	5.5	7	0.6
4"	0.59	0.73	1.97	1.97	2.11	2.11	3.98	3.9	4.06	4.57	5.2	0.19		1.02	0.24	0.04	0.08	0.22	0.28	1.32

# Process Connections

## Process Connection

without screw fitting, plain stem

<b>Stem type</b>	<b>E1</b>
<b>Stem material</b>	1.4571
<b>Stem <math>\varnothing</math> dF</b>	6 mm
<b>Order length</b>	L, KL
<b>Suitable thermowell models</b>	SK1 (8.8140)
(data sheet)	SK2 (8.8141)

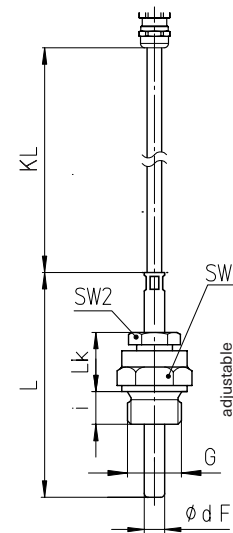


male thread / compression fitting

<b>Stem type</b>	<b>E5</b>
	(E1 with compression fitting)
<b>Stem material</b>	1.4571
<b>Stem <math>\varnothing</math> dF</b>	6 mm
<b>Order length</b>	L, KL
<b>Suitable thermowell models</b>	SF4 (8.8110), SF4F (8.8112)
(data sheet)	SF5 (8.8120), SF6, SF7 (8.8121)

**Thread**  
(dimensional data in mm / inch)

G	SW1	SW2	i	Lk
G 1/2 B	27	22	14	42
1/2" BSP	1.06	0.87	0.55	1.65
G 3/4 B	32	22	16	42
3/4" BSP	1.26	0.87	0.63	1.65
1/2" NPT	27	22	19	42
	1.06	0.87	0.75	1.65
3/4" NPT	27	22	19	42
	1.06	0.87	0.75	1.65
M20x1.5	27	22	14	42
	1.06	0.87	0.55	1.65



## Ordering Information, Options

Basic Model	Digital Thermometer Model LILLYplus		TDPKCh
Nominal case size	case Ø 100 mm (4")		100
Cable position / case configuration	vertical bottom position	collar for gauge holder bracket	Mgh
		back flange for surface mounting	Rh
	lower back position	front flange for panel mounting	rFr
		back flange for surface mounting	rRh
Temperature ranges	-50.0 / +250.0 °C (-58.0 / +482.0 °F)		NT
	-99.9 / +500.0 °C (-147.82 / +932.0 °F)		HT
Process connection	without screw fitting, plain stem		E1
	male thread / compression fitting		E5
Stem Ø dF	6 mm (0.24")		dF = 6 mm
Stem length	L in mm	e.g.	L = 100 mm
Cable length	KL in mm	e.g.	KL = 3000 mm
Connection thread	see page 3	e.g.	G½ B

**These options are to be ordered in written form. Please contact us to ensure compatibility when combining options.**

### Case polished

**Instrument tag** stainless steel plate 12 x 55 mm (0.47 x 2.17")  
sticker on the case

**Example** TDPKCh 100 Mgh, NT, E5, dF = 6 mm, L = 100 mm, KL = 3000 mm, G½ B

**Special Versions:** Please describe your requirements in cleartext!