

Digital Thermometers Model LILLY

TDKCh 63
TDKCh 100

With connection cable to the temperature sensor

Application

The battery-operated digital thermometer models LILLY 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.

Standard Versions

Measuring Element

Platinum measuring resistor Pt1000 according to DIN EN 60751

Measuring Ranges

TDKCh 63		TDKCh 100	
measuring range	resolution	measuring range	resolution
-50.0 / +199.9 °C	0.1 K	-50.0 / +250.0 °C	0.1 K
-50 / +550 °C	1 K	-99.9 / +550.0 °C	0.1 K

Ambient Temperature Ranges

Operation	-10 °C to +60 °C
Storage	-20 °C to +70 °C

Accuracy

Display	±0.3 % FS ±1 digit
Sensor	class B acc. to DIN EN 60751 (±0.3 K at 0 °C)

Measuring Rate

15 s

Indication	TDKCh 63	TDKCh 100
Display	LC display	LC display
Digits	3.5	4
Digit height	10 mm (0.39")	18 mm (0.71")

Battery	TDKCh 63	TDKCh 100
Lithium battery (Li-SOCl ₂) 3.6 V	½ AA, 1200 mAh	AA, 2600 mAh

Included in the scope of delivery, replaceable by the customer
Battery life approx. 5 – 7 years, depending on application

Error Monitoring

Battery voltage, sensor short circuit, sensor break

Error codes:

ERR1 / LOBAT	battery voltage low
ERR2	sensor short circuit or fallen below lower limit
ERR3	sensor break or upper limit exceeded

Temperature Sensor (Stem)

Up to +250 °C version as cable sensor with sleeve made of stainless steel 316Ti (1.4571)

From +250 °C 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 made of silicone rubber
up to +250 °C made of PFA

Case

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



Nominal Case Size

63, 100 mm (2½, 4")

Degree of Protection (DIN EN 60529)

IP65

Window

Instrument glass

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
- Special connection cables upon customer requirement
- 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
- Rugged version (IP68) completely cast with polyurethane (NCS 100 only)
- Shielded cable with spiral protective sleeve
- Pluggable cable with M 12x1 plug connector
- Window neutral

Special Versions Upon Request

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

Accessories

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

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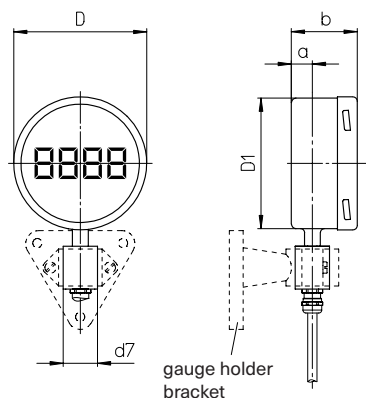
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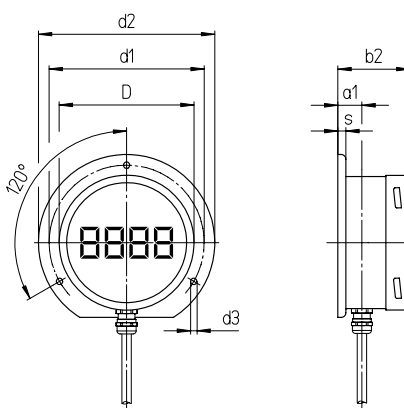
Cable Position, Code Letters, Dimensional Data and Weight

Vertical Bottom Cable Position

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

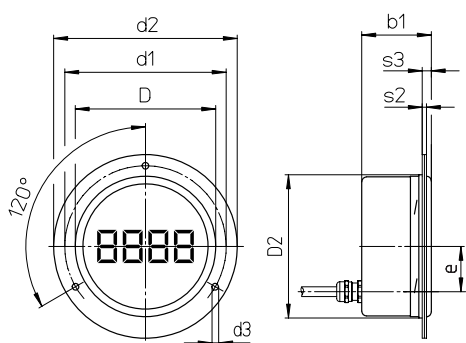


back flange for surface mounting
code letters **Rh**

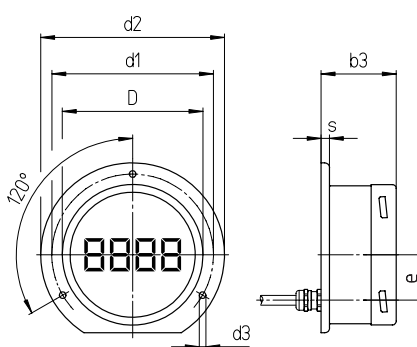


Lower Back Cable Position

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



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



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

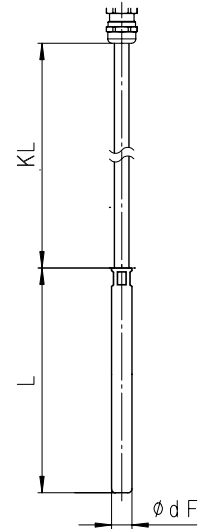
NCS	a	a1	b	b1	b2	b3	D	D1	D2	d1	d2	d3	d5	d7	s	s1	s2	s3	s5	weight
63	12	15	39	39	42	42	64	62	66	75	85	3.6	M3	26	5	1	2	5.5	7	0.38
2½"	0.47	0.59	1.54	1.54	1.65	1.65	2.52	2.44	2.6	2.95	3.35	0.14		1.02	0.2	0.04	0.08	0.22	0.28	0.84
100	15	18.5	50	50	53.5	53.5	101	99	103	116	132	4.8	M4	26	6	1	2	5.5	7	0.6
4"	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

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

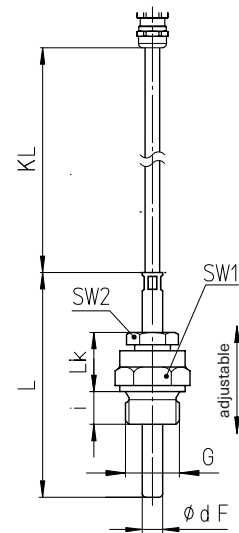


male thread / compression fitting

Stem type	E5
	(E1 with compression fitting)
Stem material	1.4571
Stem \varnothing dF	6 mm
Order length	L, KL
Suitable thermowell models	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 LILLY	TDKCh
Nominal case size	case Ø 63, 100 mm (2½, 4")	63, 100
Cable position / case configuration	vertical bottom position	collar for gauge holder bracket
		back flange for surface mounting
	lower back position	front flange for panel mounting
		back flange for surface mounting
Temperature ranges	-50.0 / +199.9 °C (NCS 63) or -50.0 / +250.0 °C (NCS 100)	NT
	-50 / +550 °C (NCS 63) or -99.9 / +550.0 °C (NCS 100)	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 or L1 in mm	e.g. L = 100 mm
Cable length	KL ≥ 1 to 15 m	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.

Window	laminated safety glass
	acrylic glass (PMMA)
	polycarbonate (PC)
Case polished	
Bayonet ring polished	
Instrument tag	stainless steel plate 12 x 55 mm (0.47 x 2.17")
	sticker on the case

Example TDKCh 100 Rh, HT, E1, dF = 6 mm, L = 50 mm, KL = 5000 mm, G½ B

Special Versions: Please describe your requirements in cleartext!