

GAS EXPANSION THERMOMETERS

type TTXR - TTXC

Capillary stem model



Rigid stem model



Options:
Electric contacts
Pt100
4-20 mA

RIGID STEM DIAL THERMOMETERS TYPE TXR

TYPE	DRAWING	DIMENSIONS mm																																															
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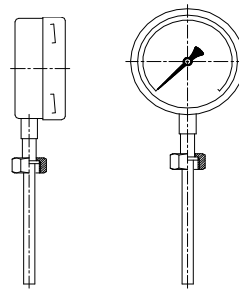
RIGID STEM DIAL THERMOMETERS

Type TXR, with stainless steel case according to EN 13190

STANDARD MODEL:

CASE : bayonet lock, AISI304/1.4301, IP-65
STEM - BULB : AISI321/1.4541, see page 8 - 11
WINDOW : mineral glass 4 mm
DIAL : aluminium, black figures on white
POINTER : aluminium, black
CONNECTION : see page 8 - 11
RANGES : from -200 upto +800°C, see page 26-28

EXAMPLE:



TXR100XA

OVERLOAD : up to 30% F.S.
 (but max. 800°C)
ACCURACY : ±1% F.S. / class 1
MOVEMENT : brass
OPTIONS : see page 30
CONTACTS : see page 31-34
PT-100 : see page 39
TRANSMITTER : see page 39

TYPE	MODEL	CASE DIAMETER (∅ in mm)				
		63	80	100	160	250
A 1130		TXR063XA	TXR080XA	TXR100XA	TXR160XA	TXR250XA
E 1131		TXR063XE	TXR080XE	TXR100XE	TXR160XE	TXR250XE
T 1133-x (x=A,B,C or D)		TXR063XT-x	TXR080XT-x	TXR100XT-x	TXR160XT-x	TXR250XT-x
F 1138		TXR063XF	TXR080XF	TXR100XF	TXR160XF	TXR250XF
OPTION		EXTRA COSTS				
Lx	LIQUID FILLED CASE: GLYCERINE (in combination with electrical device: Ondina oil, (see page 43))	TXR063Lx	TXR080Lx	TXR100Lx	TXR160Lx	TXR250Lx

EVERY ANGLE DIAL THERMOMETERS TYPE TXR

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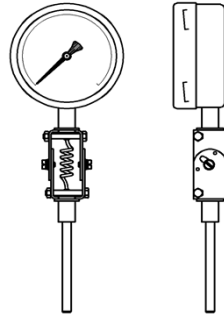
EVERY ANGLE DIAL THERMOMETERS

Type TXR, with KNEE JOINT and stainless steel case acc. to EN 13190

STANDARD MODEL:

CASE : bayonet lock, AISI304/1.4301, IP-65
KNEE JOINT : AISI304/1.4301, 360° see below
 360° : bending and turning
STEM - BULB : AISI321/1.4541, see page 8 - 11
WINDOW : mineral glass 4 mm
DIAL : aluminium, black figures on white
POINTER : aluminium, black

EXAMPLE:



TXR100XA + K360°

CONNECTION : see page 8 - 11
RANGES : -200 upto +800°C
 see page 26-28
OVERLOAD : up to 30% F.S.
 (but max. 800°C)
ACCURACY : ±1% F.S. / class 1
MOVEMENT : brass
OPTIONS : see page 30
CONTACTS : see page 31-34

TYPE	MODEL	CASE DIAMETER (Ø in mm)				
		63	80	100	160	250
A 360°		TXR063XA+K360°	TXR080XA+K360°	TXR100XA+K360°	TXR160XA+ K360°	TXR250XA+K360°
E 360°		TXR063XE+K360°	TXR080XE+K360°	TXR100XE+K360°	TXR160XE+ K360°	TXR250XE+K360°
OPTION		EXTRA COSTS				
Lx	LIQUID FILLED CASE: GLYCERINE (in combination with electrical device: Ondina oil, (see page 43)	TXR063Lx+K	TXR080Lx+K	TXR100Lx+K	TXR160Lx+K	TXR250Lx+K

BULB LENGTH AND DIAMETER FOR TYPE TXR

TYPE	STANDARD MODEL	bulb diameter Ø d	EXTRA COSTS per 100 mm STAINLESS STEEL AISI321/1.4541
A <i>plain stem</i>		9, 10, 12	per 100 mm
		6, 6.35, 8, 11, 12.5, 13, 14	per 100 mm
		7, 15, 16, 17, 18, 20	per 100 mm
FOR SHORTEST SENSITIVE PART "Ls": SEE PAGE 31		FOR OPTIONS ON BULB LENGTH AND DIAMETER: SEE PAGE 11	

CONNECTIONS FOR RIGID STEM MODELS TYPE TXR

TYPE	MODEL FOR OPTIONS ON CONNECTIONS: SEE PAGE 11	DIMENSIONS				EXTRA COSTS STAINLESS STEEL AISI304/1.4301	
		connection	HEX-1	HEX-2	T		d max
B <i>coupling nut (standard model)</i>		1/4"BSP	22	-	7	Ø 8	
		3/8"BSP	27	-	9	Ø 11	
		1/2"BSP	27	-	9	Ø 15	
		3/4"BSP	32	-	9	Ø 20	
		1"BSP	41	-	13	Ø 20	
		M18x1.5	27	-	8	Ø 12	
		M20x1.5	27	-	9	Ø 14	
		M24x1.5	32	-	9	Ø 18	
BL <i>coupling nut (long model)</i>		1/2"BSP	27	-	14	Ø 15	
		3/4"BSP	32	-	16	Ø 20	
		1"BSP	41	-	18	Ø 20	
C <i>fixed nipple (standard model)</i>		1/4"BSP	17	-	12	Ø 8	
		3/8"BSP	22	-	12	Ø 11	
		1/2"BSP	22	-	14	Ø 15	
		3/4"BSP	30	-	16	Ø 20	
		1"BSP	36	-	18	Ø 20	
		1/4"NPT	17	-	14	Ø 8	
		1/2"NPT	22	-	20	Ø 15	
		3/4"NPT	30	-	20	Ø 20	
		1"NPT	36	-	25	Ø 20	
		M18x1.5	22	-	12	Ø 12	
		M20x1.5	22	-	14	Ø 14	
M24x1.5	27	-	14	Ø 18			
CL <i>fixed nipple (long model)</i>		1/2"BSP	22	-	20	Ø 15	
		3/4"BSP	30	-	20	Ø 20	
		1"BSP	36	-	25	Ø 20	

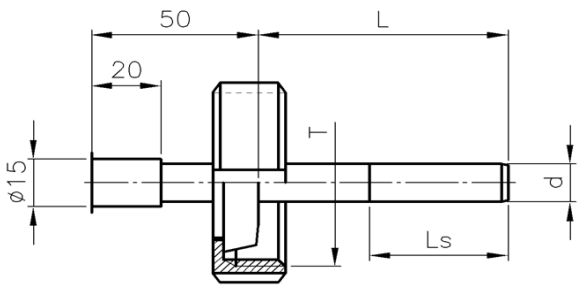
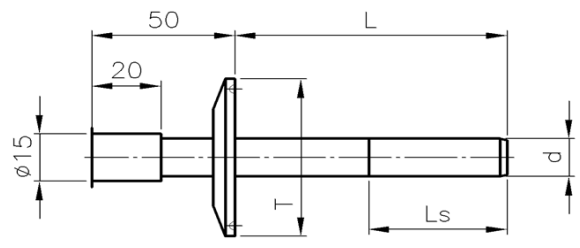
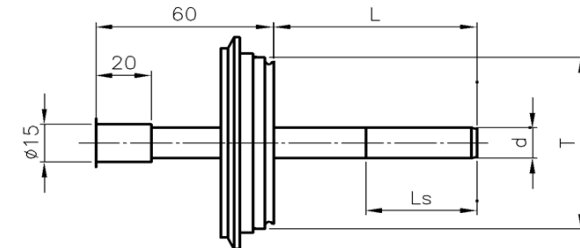
CONNECTIONS FOR RIGID STEM MODELS TYPE TXR

TYPE	MODEL FOR OPTIONS ON CONNECTIONS: SEE PAGE 11	DIMENSIONS				EXTRA COSTS	
		connection	HEX-1	HEX-2	T	d max	STAINLESS STEEL AISI304/1.4301
A 04 turning nipple (standard model)		1/4" BSP	17	-	12	Ø 8	
		3/8" BSP	22	-	12	Ø 11	
		1/2" BSP	22	-	14	Ø 15	
		3/4" BSP	30	-	16	Ø 20	
		1" BSP	36	-	18	Ø 20	
		M18x1.5	22	-	12	Ø 12	
		M20x1.5	22	-	14	Ø 14	
		M24x1.5	27	-	14	Ø 18	
AL04 turning nipple (long model)		1/2" BSP	22	-	18	Ø 15	
		3/4" BSP	30	-	20	Ø 20	
		1" BSP	36	-	25	Ø 20	
B 01 coupling nut + double nipple	<p>THREAD BETWEEN HEX-1 and HEX-2: 1/2" BSP</p>	1/4" BSP	27	22	12	Ø 8	
		3/8" BSP	27	22	12	Ø 11	
		1/2" BSP	27	22	14	Ø 15	
		3/4" BSP	27	27	16	Ø 20	
		1" BSP	27	36	18	Ø 20	
		1/4" NPT	27	22	14	Ø 8	
		1/2" NPT	27	22	20	Ø 15	
		3/4" NPT	27	27	20	Ø 20	
		1" NPT	27	36	25	Ø 20	
		M18x1.5	27	22	12	Ø 12	
		M20x1.5	27	22	14	Ø 14	
		M24x1.5	27	27	14	Ø 18	
CS 3 adjustable connection, sliding on stem	<p>THREAD BETWEEN HEX-1 and HEX-2: 1/2" BSP</p>	1/4" BSP	22	27	12	Ø 8	
		3/8" BSP	22	27	12	Ø 11	
		1/2" BSP	22	27	14	Ø 15	
		3/4" BSP	22	32	16	Ø 20	
		1" BSP	22	36	18	Ø 20	
		1/4" NPT	22	27	14	Ø 8	
		1/2" NPT	22	27	20	Ø 15	
		3/4" NPT	22	27	20	Ø 20	
		1" NPT	22	36	25	Ø 20	
		M18x1.5	22	27	12	Ø 12	
		M20x1.5	22	27	14	Ø 14	
		M24x1.5	22	27	14	Ø 18	
	FOR CONNECTION TYPE CS3		1/2" BSP female				
			3/4" BSP female				
			1" BSP female				

CONNECTIONS FOR RIGID STEM MODELS TYPE TXR

TYPE	MODEL	DIMENSIONS			EXTRA COSTS
		L	d-1	d-2	STAINLESS STEEL
					AISI321/1.4541
S <i>surface bulb: fixed type</i>		-	-	-	
SA <i>surface bulb: adjustable type</i>		-	-	-	
HA <i>helical air bulb</i>		-	-	-	
HP <i>with handle and point</i>		1000	10 12	22	
		1000	14 16	22	
		1000	18	22	

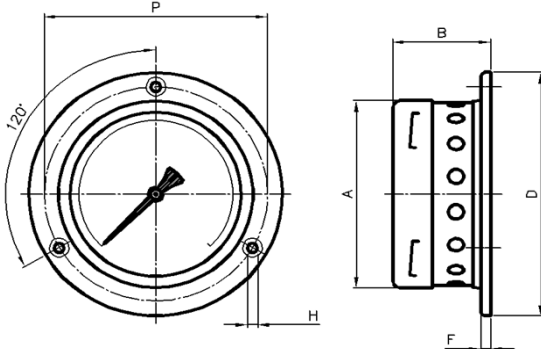
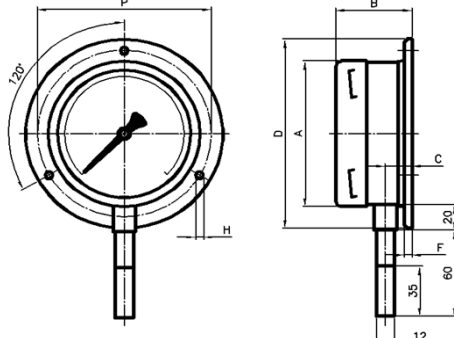
SANITARY CONNECTIONS FOR RIGID STEM MODELS TYPE TXR

TYPE	MODEL WITH POLISHED BULB	DIMENSIONS		EXTRA COSTS
		connection	T	STAINLESS STEEL AISI316/1.4401
CM <i>acc. to DIN 11851</i>	 <p style="text-align: center;">(also available in SMS, RJT, IDF etc.)</p>	1" - DN25	rd 52x1/6	
		1 1/2" - DN40	rd 65x1/6	
		2" - DN50	rd 78x1/6	
		3" - DN80	rd 104x1/6	
TC <i>TRI CLAMP acc. to ISO 2852</i>		1"	Ø 50.5	
		1 1/2"	Ø 50.5	
		2"	Ø 64	
TV <i>Varivent® In-Line</i>		DN50	Ø 50	
		Suitable for In Line housing DN25		
		DN68	Ø 68	
Suitable for In Line housing DN40 and up				

OPTIONS FOR BULB AND STEM

OPTION		EXTRA COSTS
		PER 100 MM
BULB AND STEM AISI316/1.4401	for diameter 6, 8, 9, 10, 12, 13, 14, 15, 16, 18	
BULB AND STEM POLISHED (MECHANICAL)	for all diameters	
BULB AND STEM PTFE® LINING (max.250° C)	MAXIMUM 1000 mm (longer: ON DEMAND)	first 100 mm: O D
BULB AND STEM HALAR® COATED (max.120° C)		per 100 mm extra: O D

ROOM THERMOMETERS TYPE RTX

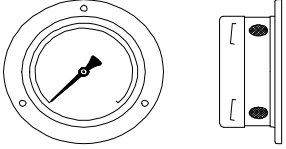
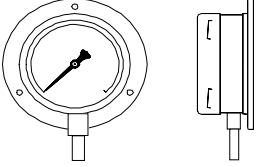
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ROOM THERMOMETERS

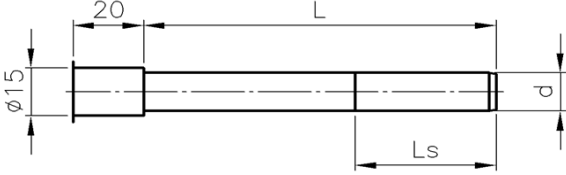
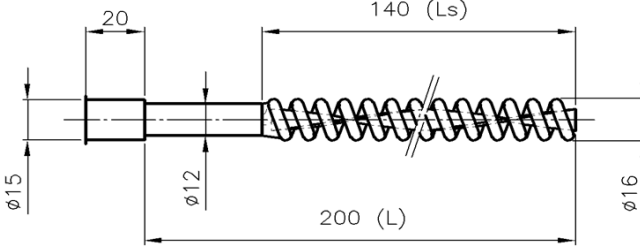
Type RTX, with stainless steel case according to EN 13190

STANDARD MODEL

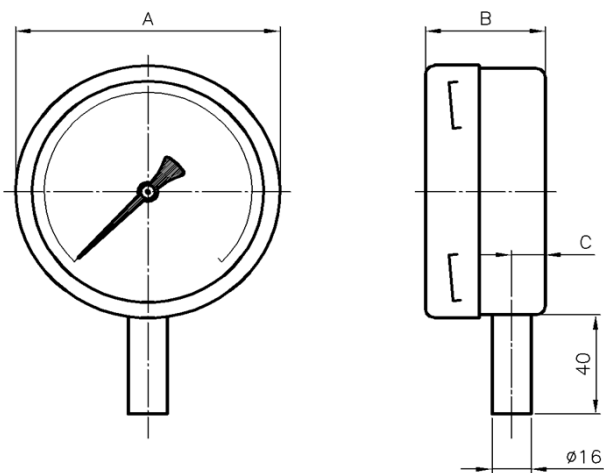
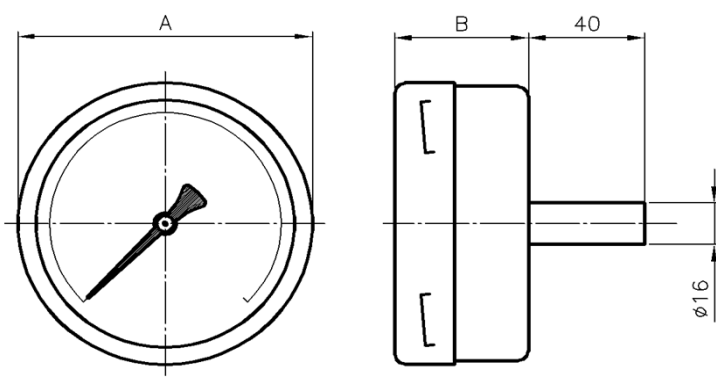
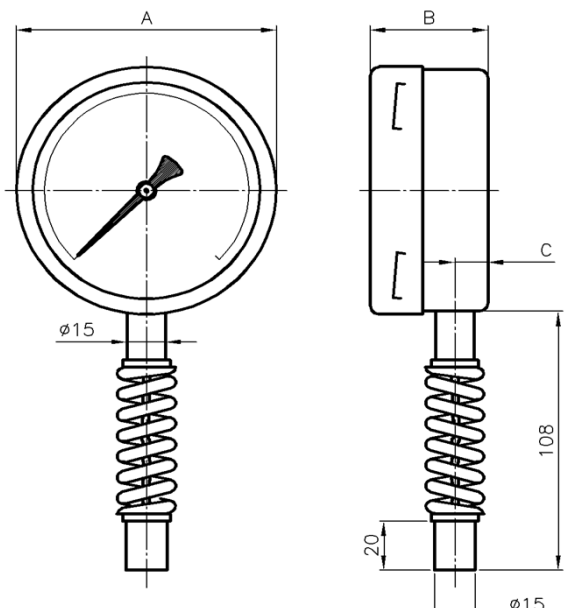
CASE	: bayonet lock, AISI304/1.4301, type R with vent holes (for indoor use), type B: IP65	RANGES	: for measuring ambient temperatures: minimum -50 upto +80°C, see page 26
STEM AND BULB	: AISI321/1.4541, for type R: bulb inside case and for type B: plain stem type A or helical air-bulb type HA (see below)	OVERLOAD	: up to 30% F.S. (but max. 80°C)
WINDOW	: mineral glass 4 mm	ACCURACY	: ±1% F.S. / class 1
DIAL	: aluminium, black figures on white	MOVEMENT	: brass
POINTER	: aluminium, black	OPTIONS	: see page 30, electrical device: page 31-34

TYPE	MODEL	CASE DIAMETER (R in mm)				
		063	080	100	160	250
R 1142		N.A.	N.A.	RTX100XR	RTX160XR	RTX250XR
B 1142-SPECIAL		RTX063XB	RTX080XB	RTX100XB	RTX160XB	RTX250XB
OPTION		EXTRA COSTS				
LB not for type R	LIQUID FILLED CASE: GLYCERINE (in combination with electrical device: Ondina oil, see page 43)	RTX063LB	RTX080LB	RTX100LB	RTX160LB	RTX250LB

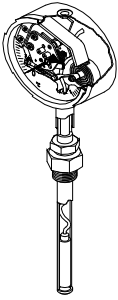
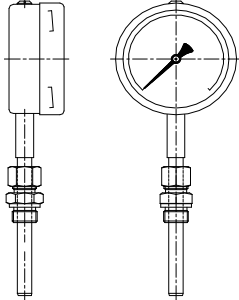
BULB TYPES FOR TYPE B

TYPE	MODEL	BULB AISI321/1.4541	EXTRA COSTS
A PLAIN STEM	 <p>FOR STANDARD SENSITIVE PART "Ls": SEE PAGE 31</p>	L=60 d=12 Ls=35	STANDARD
HA HELICAL AIR BULB		L=200	

DIESEL EXHAUST DIAL THERMOMETERS

TYPE	DRAWING	DIMENSIONS mm																													
<p style="font-size: 2em; font-weight: bold;">A</p> <p>TXRxxxLA- DIESEL</p>		<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">DIM.</th> <th colspan="5">CASE DIAMETER</th> </tr> <tr> <th>63</th> <th>80</th> <th>100</th> <th>160</th> <th>250</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>65</td> <td>83</td> <td>101</td> <td>161</td> <td>252</td> </tr> <tr> <td>B</td> <td>38</td> <td>37</td> <td>45</td> <td>45</td> <td>55</td> </tr> <tr> <td>C</td> <td>13</td> <td>13</td> <td>13</td> <td>13</td> <td>13</td> </tr> </tbody> </table>	DIM.	CASE DIAMETER					63	80	100	160	250	A	65	83	101	161	252	B	38	37	45	45	55	C	13	13	13	13	13
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<p style="font-size: 2em; font-weight: bold;">E</p> <p>TXRxxxLE- DIESEL</p>		<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">DIM.</th> <th colspan="5">CASE DIAMETER</th> </tr> <tr> <th>63</th> <th>80</th> <th>100</th> <th>160</th> <th>250</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>65</td> <td>83</td> <td>101</td> <td>161</td> <td>252</td> </tr> <tr> <td>B</td> <td>38</td> <td>37</td> <td>45</td> <td>45</td> <td>55</td> </tr> </tbody> </table>	DIM.	CASE DIAMETER					63	80	100	160	250	A	65	83	101	161	252	B	38	37	45	45	55						
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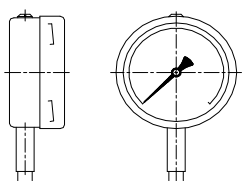
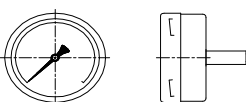
DIESEL EXHAUST DIAL THERMOMETERS

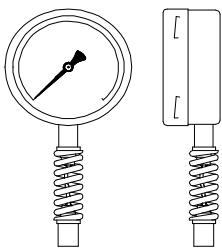
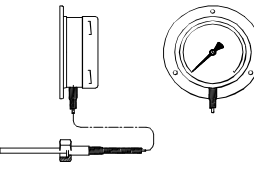
 <p>3-D view SECUTHERM® DIESEL</p>	GENERAL INFORMATION	 <p>SECUTHERM® DIESEL THERMOMETER</p>
<p>DIAL THERMOMETERS SPECIAL DESIGNED FOR:</p> <ul style="list-style-type: none"> - Diesel engines; for monitoring: exhaust gas, cooling water, oil, air-inlet temperatures - Compressors, - Turbochargers, - other machines subjected to severe vibrations - max. temperature 800°C 		

Type TXR-DIESEL, with stainless steel case according to EN 13190

STANDARD MODEL:

<p>CASE : bayonet lock, AISI304/1.4301, IP-67 silicone oil filled</p> <p>STEM AND BULB : Ø12 mm, AISI321/1.4541, see page 16</p> <p>WINDOW : mineral glass 4 mm</p> <p>DIAL : aluminium, black figures on white</p> <p>POINTER : aluminium, black</p> <p>CONNECTION : AISI304/1.4301, see page 16 - 17</p>	<p>RANGES : 0+600, 0+650, +50/+650°C, see page 27</p> <p>ADJUSTMENT : +/- 6% F.S. with adjustment screw</p> <p>OVERLOAD : up to 30% F.S. (but max. 800°C)</p> <p>ACCURACY : ±1% F.S. / class 1</p> <p>MOVEMENT : brass</p> <p>OPTIONS : see page below + page 30</p>
--	--

TYPE	MODEL	CASE DIAMETER (Ø in mm)	
		80	100
A		TXR080LA-DIESEL	TXR100LA-DIESEL
E		TXR080LE-DIESEL	TXR100LE-DIESEL

OPTION	EXAMPLE:	CASE DIAMETER (Ø in mm)	
		80	100
+AVS		TXR080Lx-DIESEL+AVS	TXR100Lx-DIESEL+AVS
CAPILLARY		SEE PAGE 19	SEE PAGE 19

BULB LENGTH AND DIAMETER FOR TYPE TXR-DIESEL

TYPE	STANDARD MODEL	bulb and stem L=150 mm x Ø d AISI321/1.4541	EXTRA COSTS per 50 mm extra
A <i>plain stem</i>		10 and 12	
		13 and 14	
		16 and 18	

CONNECTIONS FOR TYPE TXR-DIESEL

TYPE	MODEL	DIMENSIONS					EXTRA COSTS
		connection	HEX-1	HEX-2	T	d max	
B <i>coupling nut (standard model)</i>		1/2"BSP	27	-	9	Ø 15	
		3/4"BSP	32	-	9	Ø 20	
		1"BSP	41	-	13	Ø 20	
		M18x1.5	27	-	8	Ø 12	
		M20x1.5	27	-	9	Ø 14	
		M24x1.5	32	-	9	Ø 18	
BL <i>coupling nut (long model)</i>		1/2"BSP	27	-	14	Ø15	
		3/4"BSP	32	-	16	Ø 20	
		1"BSP	41	-	18	Ø 20	
B 01 <i>coupling nut + double nipple</i>	<p>THREAD BETWEEN HEX-1 AND HEX-2: 1/2"BSP</p>	1/2"BSP	27	22	14	Ø15	
		3/4"BSP	27	27	16	Ø 20	
		1"BSP	27	36	18	Ø 20	
		1/2"NPT	27	22	20	Ø 15	
		3/4"NPT	27	27	20	Ø 20	
		1"NPT	27	36	25	Ø 20	
		M18x1.5	27	22	12	Ø 12	
		M20x1.5	27	22	14	Ø 14	
		M24x1.5	27	27	14	Ø 18	

CONNECTIONS FOR TYPE TXR-DIESEL

TYPE	MODEL	DIMENSIONS				EXTRA COSTS	
		connection	HEX-1	HEX-2	T		d max
CS 3 adjustable connection, sliding on stem AISI304/1.4301	<p style="text-align: center;">THREAD BETWEEN HEX-1 and HEX-2: 1/2" BSP</p>	1/2" BSP	22	27	14	Ø 15	
		3/4" BSP	22	32	16	Ø 20	
		1" BSP	22	36	18	Ø 20	
		1/2" NPT	22	27	20	Ø 15	
		3/4" NPT	22	32	20	Ø 20	
		1" NPT	22	36	25	Ø 20	
		M18x1.5	22	27	12	Ø12	
		M20x1.5	22	27	14	Ø 14	
		M24x1.5	22	27	14	Ø 18	
		FOR CONNECTION TYPE CS3	1/2" BSP female				
3/4" BSP female							
1" BSP female							

NOTE: FOR POCKETS AND THERMOWELLS; SEE PAGE 44 - 47

CAPILLARY DIAL THERMOMETERS TYPE TXC

TYPE	DRAWING	DIMENSIONS mm																																															
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TYPE H AND I SEE PAGE 20

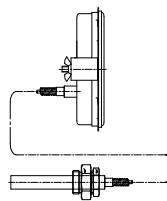
CAPILLARY DIAL THERMOMETERS

Type TXC, with stainless steel case according to EN 13190

STANDARD MODEL:

CASE	: bayonet lock, AISI304/1.4301, IP-65
CAPILLARY TUBE	: see page 22 (upto 100 meters)
STEM AND BULB	: AISI321/1.4541, see page 23-25
CONNECTION	: AISI304/1.4301, see page 23-25
WINDOW	: mineral glass 4 mm
DIAL	: aluminium, black figures on white
POINTER	: aluminium, black
RANGES	: from -200 upto +800°C, see page 26-28

EXAMPLE:

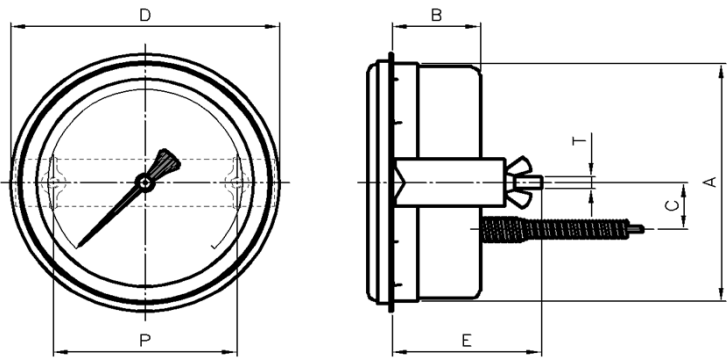
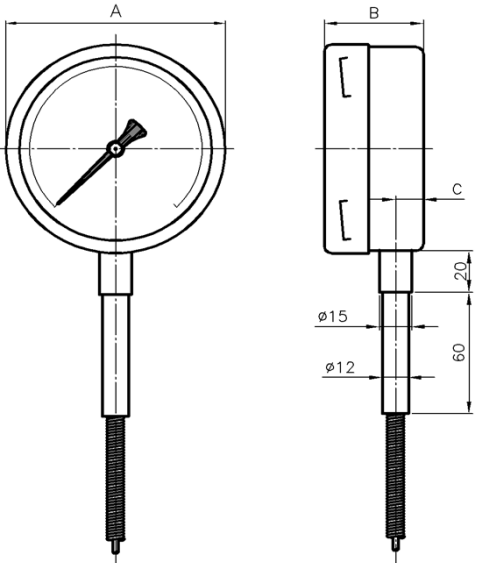


TXC160XH

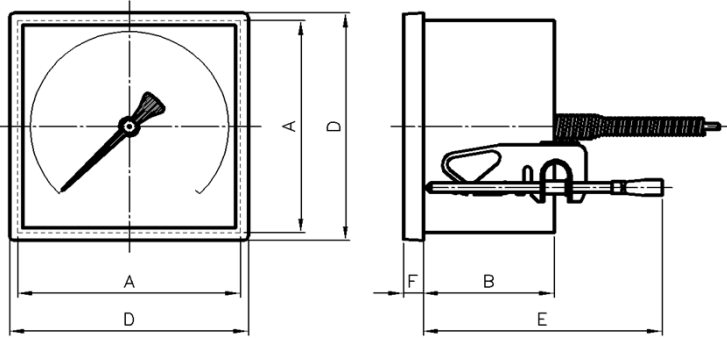
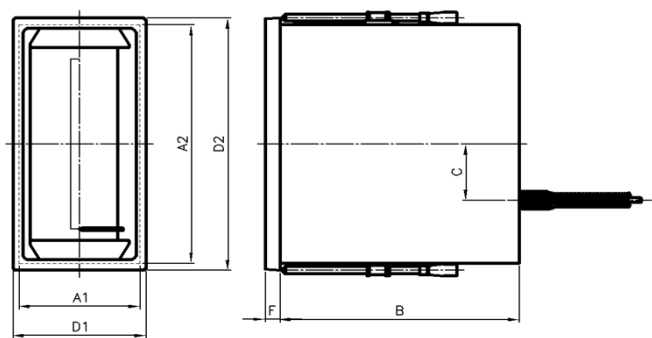
ADJUSTMENT	: +/- 6 % F.S. with adj. screw at the side
OVERLOAD	: up to 30% F.S. (but max. 800°C)
ACCURACY	: ±1% F.S. / class 1
MOVEMENT	: brass
OPTIONS	: see page 30
CONTACTS	: see page 31-34
PT-100	: see page 39
TRANSMITTER	: see page 39

TYPE	MODEL	CASE DIAMETER (Ø in mm)				
		63	80	100	160	250
A 1140		TXC063XA	TXC080XA	TXC100XA	TXC160XA	TXC250XA
B 1142		TXC063XB	TXC080XB	TXC100XB	TXC160XB	TXC250XB
D 1141		TXC063XD	TXC080XD	TXC100XD	TXC160XD	TXC250XD
F 1148		TXC063XF	TXC080XF	TXC100XF	TXC160XF	TXC250XF
G 1145		TXC063XG	TXC080XG	TXC100XG	TXC160XG	TXC250XG
H 1146		TXC063XH	TXC080XH	TXC100XH	TXC160XH	TXC250XH
I -		TXC063XI	TXC080XI	TXC100XI	TXC160XI	TXC250XI
OPTION (see also page 32)		EXTRA COSTS				
Lx	LIQUID FILLED CASE: GLYCERINE (in combination with electrical device: Ondina oil, see page 43)	TXC063Lx	TXC080Lx	TXC100Lx	TXC160Lx	TXC250Lx

CAPILLARY DIAL THERMOMETERS TYPE TXC

TYPE	DRAWING	DIMENSIONS mm																																																					
H TXCxxxXH		<table border="1"> <thead> <tr> <th rowspan="2">DIM.</th> <th colspan="5">CASE DIAMETER</th> </tr> <tr> <th>63*</th> <th>80</th> <th>100</th> <th>160</th> <th>250+</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>65</td> <td>83</td> <td>101</td> <td>161</td> <td>252</td> </tr> <tr> <td>B</td> <td>30</td> <td>35</td> <td>35</td> <td>25</td> <td>45</td> </tr> <tr> <td>C</td> <td>20**</td> <td>25</td> <td>20</td> <td>20</td> <td>0</td> </tr> <tr> <td>D</td> <td>70</td> <td>85</td> <td>112</td> <td>180</td> <td>270</td> </tr> <tr> <td>E</td> <td>50</td> <td>55</td> <td>60</td> <td>60</td> <td>70</td> </tr> <tr> <td>P</td> <td>33</td> <td>59</td> <td>75</td> <td>139</td> <td>+</td> </tr> <tr> <td>T</td> <td>M5</td> <td>M5</td> <td>M5</td> <td>M5</td> <td>M5</td> </tr> </tbody> </table> <p>* U-clamp vertical mounted ** 20 mm to the left (front view) + with 3 clamps under 120 degr.</p>	DIM.	CASE DIAMETER					63*	80	100	160	250+	A	65	83	101	161	252	B	30	35	35	25	45	C	20**	25	20	20	0	D	70	85	112	180	270	E	50	55	60	60	70	P	33	59	75	139	+	T	M5	M5	M5	M5	M5
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CAPILLARY DIAL THERMOMETERS TYPE TPC

S TPCxxxxxXS		<table border="1"> <thead> <tr> <th rowspan="2">DIM.</th> <th colspan="4">CASE DIAMETER</th> </tr> <tr> <th>72 x 72</th> <th>96 x 96</th> <th>144x 144</th> <th>192x192</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>66</td> <td>90</td> <td>136</td> <td>183</td> </tr> <tr> <td>B</td> <td>53</td> <td>53</td> <td>53</td> <td>89</td> </tr> <tr> <td>D</td> <td>72</td> <td>96</td> <td>144</td> <td>195</td> </tr> <tr> <td>E</td> <td>95</td> <td>95</td> <td>95</td> <td>95</td> </tr> <tr> <td>F</td> <td>8</td> <td>8</td> <td>8</td> <td>8</td> </tr> </tbody> </table>	DIM.	CASE DIAMETER				72 x 72	96 x 96	144x 144	192x192	A	66	90	136	183	B	53	53	53	89	D	72	96	144	195	E	95	95	95	95	F	8	8	8	8
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V/H TPCxxxxxXV TPCxxxxxXH		<table border="1"> <thead> <tr> <th rowspan="2">DIM.</th> <th colspan="2">CASE DIAMETER</th> </tr> <tr> <th>144x72</th> <th>192x96</th> </tr> </thead> <tbody> <tr> <td>A1</td> <td>66</td> <td>91</td> </tr> <tr> <td>A2</td> <td>136</td> <td>184</td> </tr> <tr> <td>B</td> <td>130</td> <td>155</td> </tr> <tr> <td>C</td> <td>30</td> <td>30</td> </tr> <tr> <td>D1</td> <td>72</td> <td>96</td> </tr> <tr> <td>D2</td> <td>144</td> <td>192</td> </tr> <tr> <td>F</td> <td>8</td> <td>8</td> </tr> </tbody> </table>	DIM.	CASE DIAMETER		144x72	192x96	A1	66	91	A2	136	184	B	130	155	C	30	30	D1	72	96	D2	144	192	F	8	8								
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D1	72	96																																		
D2	144	192																																		
F	8	8																																		

CAPILLARY DIAL THERMOMETERS

Type TPC, with glassfibre reinforced black Noryl case

STANDARD MODEL:

CASE : glassfibre reinforced black Noryl, IP45
square or rectangular shaped for panel mounting

CAPILLARY TUBE : see page 22 (upto 100 meter)

STEM AND BULB : AISI321/1.4541, see page 23-25

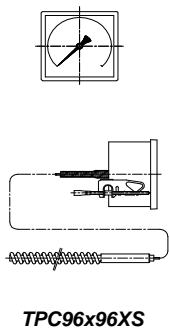
CONNECTION : AISI304/1.4301, see page 23-25

WINDOW : plexi-glass PMMA 3 mm

DIAL : aluminium, black figures on white

POINTER : aluminium, black

EXAMPLE:



RANGES : from -200 upto +800°C, see page 26-28

ADJUSTMENT : +/- 6 % F.S. with adj. screw at the side

OVERLOAD : up to 30% F.S. (but max. 800°C)

ACCURACY : ±1% F.S. / class 1

MOVEMENT : brass

OPTIONS : see page 30

CONTACTS : see page 31-34

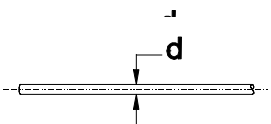
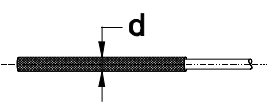
PT-100 : see page 39

TRANSMITTER : see page 39

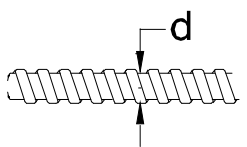
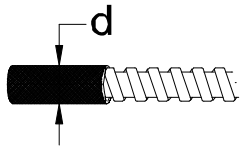
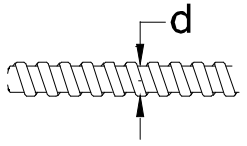
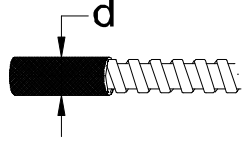
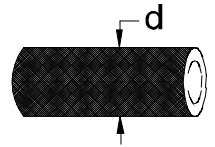
TYPE	SQUARE MODEL	CASE DIMENSIONS (in mm)			
		72x72	96x96	144x144	192x192
S 1201...1204		TPC72x72XS	TPC96x96XS	TPC144x144XS	TPC192x192XS
TYPE	VERTICAL MODEL	72x144		96x192	
V 1211...1212		TPC72x144XV		TPC96x192XV	
TYPE	HORIZONTAL MODEL	144x72		192x96	
H 1211...1212		TPC144x72XH		TPC192x96XH	

NOTE: LIQUID FILLING FOR TYPE TPC IS NOT POSSIBLE (USE E.G. TXC WITH SPECIAL SQUARE FRONTFLANGES : O.D.)

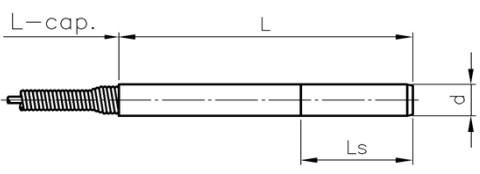
CAPILLARY

MATERIAL	MODEL	Ø d (mm)	Tmin	Tmax	CAPILLARY LENGTH Lc	
			°C		EXTRA COSTS	
STAINLESS STEEL AISI321 / 1.4541		2	-260	+800	per 1000 mm	
STAINLESS STEEL AISI321 / 1.4541 + PVC		4	-60	+120	per 1000 mm	

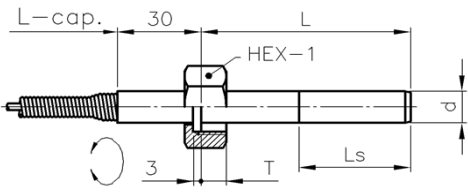
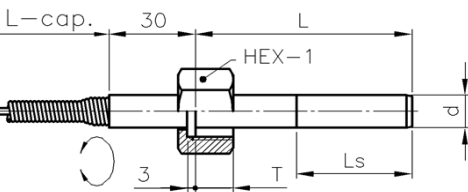
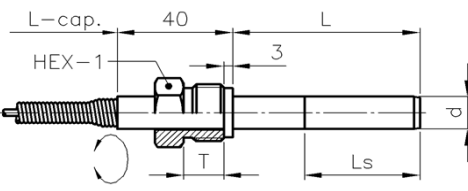
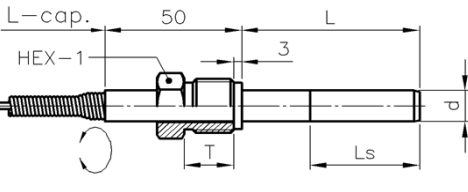
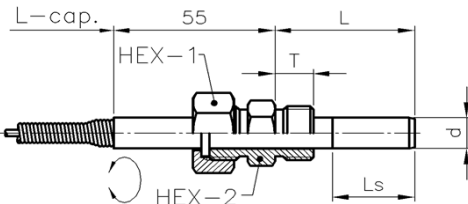
CAPILLARY COVERINGS for above mentioned capillary

MATERIAL	MODEL	Ø d (mm)	Tmin	Tmax	CAPILLARY LENGTH Lc	
			°C		FIRST 1000 MM	FURTHER PER 1000 MM
FLEXIBLE STAINLESS STEEL AISI304/1.4301		7	-260	+800		
FLEXIBLE STAINLESS STEEL AISI304/1.4301 +PVC		8	-60	+120		
FLEXIBLE STAINLESS STEEL AISI316/1.4401		7	-260	+800		
FLEXIBLE STAINLESS STEEL AISI316/1.4401 +PVC		7	-60	+120		
PLUMB (Pb)		16	-20	+200		

BULB LENGTH AND DIAMETER FOR TYPE TXC

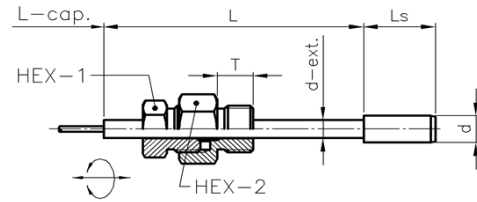
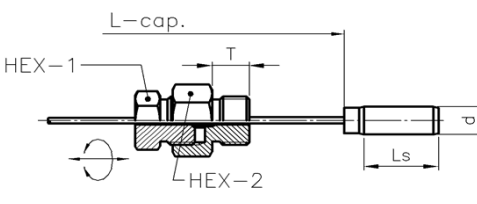
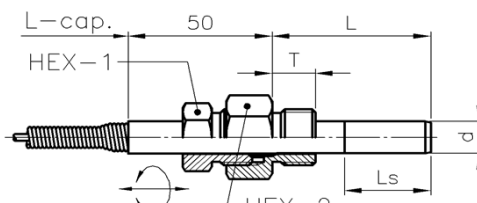
TYPE	STANDARD MODEL	bulb diameter Ø d	EXTRA COSTS per 100 mm STAINLESS STEEL AISI321/1.4541
A <i>plain stem</i>		9, 10, 12	per 100 mm
		6, 6.35, 8, 11, 12.5, 13, 14	per 100 mm
		7, 15, 16, 17, 18, 20	per 100 mm
FOR SHORTEST SENSITIVE PART "Ls": SEE PAGE 31		FOR OPTIONS ON BULB LENGTH AND DIAMETER: SEE PAGE 27	

CONNECTIONS FOR CAPILLARY MODELS TYPE TXC

TYPE	MODEL	DIMENSIONS				EXTRA COSTS	
		connection	HEX-1	HEX-2	T	d max	STAINLESS STEEL AISI304/1.4301
B <i>coupling nut (standard model)</i>		1/4" BSP	22	-	7	Ø 8	
		3/8" BSP	27	-	9	Ø 11	
		1/2" BSP	27	-	9	Ø 15	
		3/4" BSP	32	-	9	Ø 20	
		1" BSP	41	-	13	Ø 20	
		M18x1.5	27	-	8	Ø 12	
		M20x1.5	27	-	9	Ø 14	
		M24x1.5	32	-	9	Ø 18	
BL <i>coupling nut (long model)</i>		1/2" BSP	27	-	14	Ø 15	
		3/4" BSP	32	-	16	Ø 20	
		1" BSP	41	-	18	Ø 20	
A04 <i>turning nipple (standard model)</i>		1/4" BSP	17	-	12	Ø 8	
		3/8" BSP	22	-	12	Ø 11	
		1/2" BSP	22	-	14	Ø 15	
		3/4" BSP	30	-	16	Ø 20	
		1" BSP	36	-	18	Ø 20	
		M18x1.5	22	-	12	Ø 12	
		M20x1.5	22	-	14	Ø 14	
M24x1.5	27	-	14	Ø 18			
AL04 <i>turning nipple (long model)</i>		1/2" BSP	22	-	18	Ø 15	
		3/4" BSP	30	-	20	Ø 20	
		1" BSP	36	-	25	Ø 20	
B 01 <i>coupling nut + double nipple</i>		1/4" BSP	27	22	12	Ø 8	
		3/8" BSP	27	22	12	Ø 11	
		1/2" BSP	27	22	14	Ø 15	
		3/4" BSP	27	27	16	Ø 20	
		1" BSP	27	36	18	Ø 20	
		1/4" NPT	27	22	14	Ø 8	
		1/2" NPT	27	22	20	Ø 15	
		3/4" NPT	27	27	20	Ø 20	
		1" NPT	27	36	25	Ø 20	
		M18x1.5	27	22	12	Ø 12	
		M20x1.5	27	22	14	Ø 14	
M24x1.5	27	27	14	Ø 18			

THREAD BETWEEN HEX-1 and HEX-2: 1/2" BSP

CONNECTIONS FOR CAPILLARY MODELS TYPE TXC

TYPE	MODEL	DIMENSIONS				EXTRA COSTS	
		connection	HEX-1	HEX-2	T	d max	STAINLESS STEEL AISI304/1.4301
		CS 1 <i>adjustable connection, sliding on extension tube</i>	 <p>THREAD BETWEEN HEX-1 and HEX-2: 1/2"BSP</p>	1/4"BSP	22	27	12
3/8"BSP	22			27	12	Ø 14	
1/2"BSP	22			27	14	Ø 18	
3/4"BSP	22			32	16	Ø 23	
1"BSP	22			36	18	Ø 30	
1/4"NPT	22			27	14	Ø 13	
1/2"NPT	22			27	20	Ø 20	
3/4"NPT	22			27	20	Ø 25	
1"NPT	22			36	25	Ø 32	
M18x1.5	22			27	12	Ø 16	
M20x1.5	22			27	14	Ø 18	
M24x1.5	22			27	14	Ø 22	
CS 2 <i>adjustable connection, sliding on capillary</i>	 <p>THREAD BETWEEN HEX-1 and HEX-2: 1/2"BSP</p>			1/4"BSP	22	27	12
		3/8"BSP	22	27	12	Ø 14	
		1/2"BSP	22	27	14	Ø 18	
		3/4"BSP	22	32	16	Ø 23	
		1"BSP	22	36	18	Ø 30	
		1/4"NPT	22	27	14	Ø 13	
		1/2"NPT	22	27	20	Ø 20	
		3/4"NPT	22	27	20	Ø 25	
		1"NPT	22	36	25	Ø 32	
		M18x1.5	22	27	12	Ø 16	
		M20x1.5	22	27	14	Ø 18	
		M24x1.5	22	27	14	Ø 22	
		CS 3 <i>adjustable connection, sliding on stem</i>	 <p>THREAD BETWEEN HEX-1 and HEX-2: 1/2"BSP</p>	1/4"BSP	22	27	12
3/8"BSP	22			27	12	Ø 11	
1/2"BSP	22			27	14	Ø 15	
3/4"BSP	22			32	16	Ø 20	
1"BSP	22			36	18	Ø 20	
1/4"NPT	22			27	14	Ø 8	
1/2"NPT	22			27	20	Ø 15	
3/4"NPT	22			27	20	Ø 20	
1"NPT	22			36	25	Ø 20	
M18x1.5	22			27	12	Ø 12	
M20x1.5	22			27	14	Ø 14	
M24x1.5	22			27	14	Ø 18	
	FOR CONNECTION TYPE CS3			1/2"BSP female			
		3/4"BSP female					
		1"BSP female					

CONNECTIONS FOR CAPILLARY MODELS TYPE TXC

TYPE	MODEL	DIMENSIONS			EXTRA COSTS
		L	D-1	D-2	STAINLESS STEEL AISI321/1.4541
S surface bulb		-	-	-	
HA helical air bulb	<p>for L longer than 200 see page 25</p>	-	-	-	

SANITARY CONNECTIONS FOR CAPILLARY MODELS TYPE TXC

TYPE	MODEL WITH POLISHED BULB	DIMENSIONS		EXTRA COSTS
		connection	T	STAINLESS STEEL AISI316/1.4401
CM acc. to DIN 11851	<p>(also available in SMS, RJT, IDF etc.)</p>	1" - DN25	rd 52 x 1/6	
		1 1/2" - DN40	rd 65 x 1/6	
		2" - DN50	rd 78 x 1/6	
		3" - DN80	rd 104 x 1/6	
TC TRI CLAMP acc. to ISO 2852		1"	Ø 50.5	
		1 1/2"	Ø 50.5	
		2"	Ø 64	
TV Varivent® In-Line		DN50	Ø 50	
		Suitable for In Line housing DN25		
		DN68	Ø 68	
		Suitable for In Line housing DN40 and up		

OPTIONS FOR BULB AND STEM

OPTION		EXTRA COSTS
		PER 100 MM
BULB AND STEM AISI316/1.4401	for diameter 6, 8, 9, 10, 12, 13, 14, 15, 16, 18	
BULB AND STEM POLISHED (MECHANICAL)	for all diameters	
BULB AND STEM PTFE® LINING (max.250°C)	MAXIMUM 1000 mm (longer: ON DEMAND)	first 100 mm: O D
BULB AND STEM HALAR® COATED (max.120°C)		per 100 mm extra: O D

TEMPERATURE RANGES for all types:

TEMPERATURE RANGES			EXTRA COSTS
(in °C)	SCALE DIVISION		CASE DIMENSIONS (in mm)
	cl. 1	option cl. 0.6	ALL CASE DIMENSIONS
-200 ...+50	5	2	
-120 ...+40	2	1	
-110 ...+50	5	1	
-100 ...+100	5	1	
-100 ...+50	5	1	
-80 ...+40	2	1	
-60 ...+40	2	0.5	
-60 ...+60	2	1	
-50 ...+50	2	0.5	
-50 ...+100	5	1	
-40 ...+20	1	0.5	
-40 ...+40	1	0.5	
-40 ...+60	2	0.5	
-40 ...+80	2	1	
-40 ...+110	5	1	
-40 ...+120	2	0.5	
-40 ...+160	5	1	
-30 ...+30	1	0.5	
-30 ...+50	1	0.5	
-30 ...+70	2	0.5	
-30 ...+170	5	1	
-20 ...+40	1	0.5	
-20 ...+60	1	0.5	
-20 ...+80	2	0.5	
-20 ...+100	2	1	
-20 ...+120	2	1	
-20 ...+180	5	1	
-15 ...+45	1	0.5	
-10 ...+15	0.5	0.2	x
-10 ...+30	1	0.2	
-10 ...+50	1	0.5	
-10 ...+110	2	1	
-10 ...+150	5	1	
0 ...+25	0.5	0.2	x
0 ...+40	1	0.2	
0 ...+60	1	0.5	
0 ...+80	1	0.5	
0 ...+100	2	0.5	
0 ...+120	2	1	
0 ...+160	5	1	
0 ...+200	5	1	•
0 ...+250	5	2	
0 ...+300	5	2	
0 ...+400	10	2	
0 ...+500	10	5	
0 ...+600	10	5	
0 ...+700	10	5	
0 ...+800	10	5	

x NOT AVAILABLE

TEMPERATURE RANGES for TXR-DIESEL:

TEMPERATURE RANGES				
(in °C)	SCALE DIVISION	CASE DIMENSIONS (in mm)		
	cl. 1	Ø 63	Ø 80	Ø 100
0 ...+600	10		•	
0 ...+650	10		•	
0 ...+700	10			
0 ...+750	10			
0 ...+800	10			
+50 ...+600	10		•	
+50 ...+650	10		•	
+50 ...+700	10			
+100 ...+600	10		•	
+100 ...+650	10		•	
+100 ...+700	10			

OPTIONS ON TEMPERATURE RANGES

OPTIONS	EXTRA COSTS											
RANGE IN °F or °K												
Standard ranges	•											
Non-standard ranges	•											
DUAL SCALE IN °C/F												
Standard ranges	•											
Non-standard ranges	O D											
OTHER OPTIONS												
Non-standard scale division												
ACCURACY												
±1% F.S. / class 1	•	•	•	•	•	•	•	•	•	•	•	•
±0.6 / 0.5% F.S. (class 0.6 or 0.5) <i>(Without external adjustment)</i>	x	x					x	x				
Mirrorscale (for anti-parallax)	x	x	x				x	x	x	x	x	x

x NOT AVAILABLE

• STANDARD / NO EXTRA PRI

MARKING FOR TEMPERATURE GAUGES

OPTION	EXTRA PRICE
TAG number on dial	
TAG number on AISI304/1.4301 TAG plate 55x25 mm	
Lettering on dial	
Red mark on dial	

CERTIFICATES FOR TEMPERATURE GAUGES

TYPE OF CERTIFICATE	NET PRICES
Certificate of Conformity acc. to EN 10204 2.2.	
Calibration certificate (Traceable to international standards)	
Material certificate wetted parts acc. to EN 10204 3.1	
ATEX certification, including ATEX on the dial; only possible with STIKO logo. For gauges without contact: INSTRUMENTS WITH ATEX CERTIFICATION MUST ALSO HAVE SAFETY GLASS AND A BLOW - OUT	PER ORDER
ATEX certification, including ATEX on the dial; only possible with STIKO logo. For gauges with inductive contact: INSTRUMENTS WITH ATEX CERTIFICATION MUST ALSO HAVE SAFETY GLASS AND A BLOW - OUT	PER INSTRUMENT

CONVERSION OF DEGREES CELCIUS IN FAHRENHEIT AND REVERSE

READ THE VALUE IN EITHER CELCIUS OR FAHRENHEIT IN THE COLUMN MARKED WITH -X-. READ THE CORRESPONDING VALUE IN CELCIUS OR FAHRENHEIT IN THE COLUMN MARKED WITH °C OR °F. GENERAL: °CELCIUS =5/9x(FAHRENHEIT - 32)

°C	-X-	°F	°C	-X-	°F	°C	-X-	°F	°C	-X-	°F	°C	-X-	°F
-73,3	-100	-148,0	-1,7	29	84,2	19,4	67	152,6	65,6	150	302,0	276,7	530	986,0
-62,2	-80	-112,0	-1,1	30	86,0	20,0	68	154,4	71,1	160	320,0	282,2	540	1004,0
-56,7	-70	-94,0	-0,6	31	87,8	20,6	69	156,2	76,7	170	338,0	287,8	550	1022,0
-51,1	-60	-76,0	0,0	32	89,6	21,1	70	158,0	82,2	180	356,0	293,3	560	1040,0
-45,6	-50	-58,0	0,6	33	91,4	21,7	71	159,8	87,8	190	374,0	298,9	570	1058,0
-40,0	-40	-40,0	1,1	34	93,2	22,2	72	161,6	93,3	200	392,0	304,4	580	1076,0
-34,4	-30	-22,0	1,7	35	95,0	22,8	73	163,4	98,9	210	410,0	310,0	590	1094,0
-28,9	-20	-4,0	2,2	36	96,8	23,3	74	165,2	104,4	220	428,0	315,6	600	1112,0
-23,3	-10	14,0	2,8	37	98,6	23,9	75	167,0	110,0	230	446,0	326,7	620	1148,0
-17,8	0	32,0	3,3	38	100,4	24,4	76	168,8	115,6	240	464,0	337,8	640	1184,0
-17,2	1	33,8	3,9	39	102,2	25,0	77	170,6	121,1	250	482,0	348,9	660	1220,0
-16,7	2	35,6	4,4	40	104,0	25,6	78	172,4	126,7	260	500,0	360,0	680	1256,0
-16,1	3	37,4	5,0	41	105,8	26,1	79	174,2	132,2	270	518,0	371,1	700	1292,0
-15,6	4	39,2	5,6	42	107,6	26,7	80	176,0	137,8	280	536,0	382,2	720	1328,0
-15,0	5	41,0	6,1	43	109,4	27,2	81	177,8	143,3	290	554,0	393,3	740	1364,0
-14,4	6	42,8	6,7	44	111,2	27,8	82	179,6	148,9	300	572,0	404,4	760	1400,0
-13,9	7	44,6	7,2	45	113,0	28,3	83	181,4	154,4	310	590,0	415,6	780	1436,0
-13,3	8	46,4	7,8	46	114,8	28,9	84	183,2	160,0	320	608,0	426,7	800	1472,0
-12,8	9	48,2	8,3	47	116,6	29,4	85	185,0	165,6	330	626,0	437,8	820	1508,0
-12,2	10	50,0	8,9	48	118,4	30,0	86	186,8	171,1	340	644,0	448,9	840	1544,0
-11,7	11	51,8	9,4	49	120,2	30,6	87	188,6	176,7	350	662,0	460,0	860	1580,0
-11,1	12	53,6	10,0	50	122,0	31,1	88	190,4	182,2	360	680,0	471,1	880	1616,0
-10,6	13	55,4	10,6	51	123,8	31,7	89	192,2	187,8	370	698,0	482,2	900	1652,0
-10,0	14	57,2	11,1	52	125,6	32,2	90	194,0	193,3	380	716,0	493,3	920	1688,0
-9,4	15	59,0	11,7	53	127,4	32,8	91	195,8	198,9	390	734,0	504,4	940	1724,0
-8,9	16	60,8	12,2	54	129,2	33,3	92	197,6	204,4	400	752,0	515,6	960	1760,0
-8,3	17	62,6	12,8	55	131,0	33,9	93	199,4	210,0	410	770,0	526,7	980	1796,0
-7,8	18	64,4	13,3	56	132,8	34,4	94	201,2	215,6	420	788,0	537,8	1000	1832,0
-7,2	19	66,2	13,9	57	134,6	35,0	95	203,0	221,1	430	806,0	548,9	1100	2012,0
-6,7	20	68,0	14,4	58	136,4	35,6	96	204,8	226,7	440	824,0	560,0	1200	2192,0
-6,1	21	69,8	15,0	59	138,2	36,1	97	206,6	232,2	450	842,0	571,1	1300	2372,0
-5,6	22	71,6	15,6	60	140,0	36,7	98	208,4	237,8	460	860,0	582,2	1400	2552,0
-5,0	23	73,4	16,1	61	141,8	37,2	99	210,2	243,3	470	878,0	593,3	1500	2732,0
-4,4	24	75,2	16,7	62	143,6	37,8	100	212,0	248,9	480	896,0	604,4	1600	2912,0
-3,9	25	77,0	17,2	63	145,4	38,3	110	230,0	254,4	490	914,0	615,6	1700	3092,0
-3,3	26	78,8	17,8	64	147,2	38,9	120	248,0	260,0	500	932,0	626,7	1800	3272,0
-2,8	27	80,6	18,3	65	149,0	39,4	130	266,0	265,6	510	950,0	637,8	1900	3452,0
-2,2	28	82,4	18,9	66	150,8	39,9	140	284,0	271,1	520	968,0	648,9	2000	3632,0

SHORTEST SENSITIVE LENGTH FOR ALL TYPES THERMOMETERS

SHORTEST SENSITIVE LENGTH OF THERMOMETERS WITHOUT CONTACT																				
DIAMETER AND LENGTH OF SENSITIVE PART mm (Ls)													CAPILLARY LENGTH mm							
6	6.35	7	8	9	10	11	12	12.5/13	14	15	16	18	20	0	<1000	<2000	<5000	<10000	<20000	< 30000
70	60	50	35	30	25	20	18	17	15	14	13	13	12	80	80	80	100	120	n.a.	n.a.
120	96	80	60	45	35	30	25	25	20	20	17	16	15	60	60	60	80	80	100	120
190	155	125	90	60	55	45	35	35	30	25	25	20	20	60	60	60	80	80	80	100
--	--	190	135	100	80	65	55	50	40	35	30	30	26	60	60	60	60	80	80	100
--	--	--	170	130	100	80	65	60	50	45	40	35	31	60	60	60	60	60	80	100
--	--	--	--	190	150	120	95	90	70	60	55	50	43	60	60	60	60	60	60	60

Others on demand

SHORTEST SENSITIVE LENGTH OF THERMOMETERS WITH CONTACT																				
DIAMETER AND LENGTH OF SENSITIVE PART mm (Ls)													CAPILLARY LENGTH mm							
6	6.35	7	8	9	10	11	12	12.5/13	14	15	16	18	20	0	<1000	<2000	<5000	<10000	<20000	< 30000
70	60	50	35	30	25	20	18	17	15	14	13	13	12	120	160	160	160	160	160	160
120	96	80	60	45	35	30	25	25	20	20	17	16	15	80	80	80	80	80	80	100
190	155	125	90	60	55	45	35	35	30	25	25	20	20	60	80	80	80	80	80	100
--	--	190	135	100	80	65	55	50	40	35	30	30	26	60	60	60	60	80	80	80
--	--	--	170	130	100	80	65	60	50	45	40	35	31	60	60	60	60	60	80	80
--	--	--	--	190	150	120	95	90	70	60	55	50	43	60	60	60	60	60	60	80

Others on demand

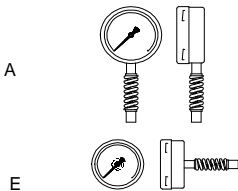
EXAMPLE: **Bulb diameter** **10 mm**
 Capillary length **5000 mm**
 Range **-20/+40C (= 60C span)**

Look at the table: "SHORTEST SENSITIVE LENGTH OF THERMOMETERS WITHOUT CONTACT"
 Start at <5000 mm capillary (right side of the table).
 Go down till 60C span
 Go left.
 Go more left to the diameter and length side.
 Stop at the 10 (mm diameter) column.
 The minimum sensitive length is 80 mm.

If this is too long choose a larger diameter, larger range or a shorter capillary length. The minimum active length will be shorter then.

SHORTEST SENSITIVE LENGTH OF THERMOMETERS WITHOUT CONTACT																				
DIAMETER AND LENGTH OF SENSITIVE PART mm (Ls)													CAPILLARY LENGTH mm							
6	6.35	7	8	9	10	11	12	12.5/13	14	15	16	18	20	GEEN	<1000	<2000	<5000	<10000	<20000	< 30000
					80												60			

OPTIONS FOR THERMOMETERS

OPTION		CASE DIAMETER (Ø in mm)				
		63	80	100	160	250
SILICONE OIL FILLING	AGAINST HEAVY VIBRATIONS					
CASE MATERIAL AISI316L/1.4404 <small>(i.o. AISI304/1.4301)</small>	CASE + BAYONETRING		N.A.		*	N.A.
	FRONT -OR BACKFLANGE	N.A.	N.A.		9,00*	N.A.
ANTI-VIBRATIONSRING <small>for model: TXR, Type A and E SEE ALSO TXR-DIESEL</small>	 <p>A</p> <p>E</p>					
+AVS		+AVS	+AVS	+AVS	+AVS	+AVS
PLEXIGLASS	PMMA					
SAFETY GLASS	REQUIRED FOR ATEX					
BLOW OUT						
DRAG POINTER <small>RESETABLE WITH KEY</small>	Single Drag Pointer					
	Double Drag Pointer	N.A.	N.A.			
DRAG POINTER <small>IN COMBINATION WITH CONTACT RESETABLE WITH KEY</small>	ONLY FOR "HZ" CONTACTS	N.A.	N.A.			N.A.
OVERLOAD RESISTANCE EXECUTION	OVERLOAD POSSIBLE UPTO 100% DEPENDING ON RANGE MAXIMUM +800°C	OD	OD	OD	OD	OD
STAINLESS STEEL MOVEMENT	AISI304/1.4301					
MICROMETER POINTER	ADJUSTABLE POINTER					

* 160mm SS316L cases not available with electrical contacts

BUILT-IN MICROSWITCH TYPE Q

TYPE Q Hz (low hysteresis)

STANDARD MODEL

INSTRUMENT	: class 1
MINIMAL RANGE	: 60 °C
CONNECTOR	: cable junction box, SEE BELOW
HYSTERESIS	: max. 1% up and down
SETPOINT(S)	: from outside
WINDOW	: PMMA - plexiglass
POINTER	: micro adjustable
CONTACT POINTER(S)	: first red, (second yellow)

example: TXC100XB + Q - 33 Hz



Class 1 and 5 Amp!!

ELECTRICAL SWITCH CAPACITY

125 Vac	: 5A (ind. load 3A)
250 Vac	: 3A (ind. load 2A)
DC 30 V	: 5A (ind. load 3A)
DC 125 V	: 0.4A (ind. load 0,4A)
DC 250 V	: 0.2A (ind. load 0,2A)

CONTACT TYPE	SWITCH FUNCTION	CABLE JUNCTION BOX	CASE DIMENSIONS			
			100	160	96x96	144x144
Q - 3 Hz* *Potential free SPDT		<p>Hirschmann</p>				
Q - 33 Hz* *Potential free DPDT		<p>Wiebrock</p>				
OPTION			EXTRA COSTS			
SETPOINT	FIXED SETPOINT (without setpoint adjustment)		0	0	0	0
LIQUID FILLING NOT POSSIBLE WITH MICROSWITCH						

BUILT-IN LOW-ACTION CONTACT TYPE M

TYPE M Hz

INSTRUMENT	: class 1
MINIMAL RANGE	: 60 °C
CONNECTOR	: cable junction box, SEE BELOW
HYSTERESIS	: max. 1% up and down
SETPPOINT(S)	: from outside with key
WINDOW	: PMMA - plexiglass
POINTER	: black
CONTACT POINTER(S)	: red

example:

TXR100XA
+ M-12 Hz



ELECTRICAL SWITCH CAPACITY

AC	: 50 VA (max. 250V)
DC	: 30 W (max. 250V)

CONTACT TYPE	SWITCH FUNCTION	CABLE JUNCTION BOX	CASE DIMENSIONS				
			100	160	96x96	144x144	72x144
M-1 Hz* *Potential free		<p>PG 9 Hirschmann</p>					
M-2 Hz* *Potential free							
M-3 Hz* *Potential free							
M-11 Hz							
M-12 Hz							
M-21 Hz							
M-22 Hz							
M-xx Hz +GS* *Potential free	<p>example: M-21 Hz GS</p>	<p>M20x1.5 Wiebrock</p>					N.A.
M-33 Hz							N.A.
M-33 Hz+GS* *Potential free							N.A.
M-xxx Hz	functions to be specified at order						N.A.
M-xxxx Hz	functions to be specified at order			O.D.	O.D.	O.D.	O.D.
OPTION			EXTRA COSTS				
Lx	LIQUID FILLED CASE (ONDINA)				N.A.	N.A.	N.A.

BUILT-IN INDUCTIVE CONTACT TYPE I

TYPE I Hz

INSTRUMENT	: class 1
MINIMAL RANGE	: 60 °C
CONNECTOR	: cable junction box, SEE BELOW
HYSTERESIS	: max. 1% up and down
SETPOINT(S)	: from outside with key
WINDOW	: PMMA - plexiglass
POINTER	: black
CONTACT POINTER(S)	: red

ELECTRICAL SWITCH CAPACITY

Nominal voltage	: 8VDC (Ri=1 Kohm)
Explosion proof	: EEx ia II C T6
Regulations	: EN 60947-5-2

example:

TXC100XB
+ I-x Hz



Also available with:



CONTACT TYPE	SWITCH FUNCTION OPERATING CURRENT	CABLE JUNCTION BOX	CASE DIMENSIONS				
			100	160	96x96	144x144	72x144
I-1 Hz <i>Si 2-K08-Y1 (Turck)</i>		<p>Hirschmann</p>					
I-2 Hz <i>Si 2-K08-Y1 (Turck)</i>							
I-x Hz+2SN <i>SJ 2 SN (Pepperl+Fuchs)</i>				N.A.		N.A.	
I-x Hz+3.5SN <i>SJ 3.5 SN (Pepperl+Fuchs)</i>				N.A.		N.A.	N.A.
I-11 Hz <i>Si 2-K08-Y1 (Turck)</i>		<p>Wiebrock</p>					
I-12 Hz <i>Si 2-K08-Y1 (Turck)</i>							
I-21 Hz <i>Si 2-K08-Y1 (Turck)</i>							
I-22 Hz <i>Si 2-K08-Y1 (Turck)</i>							
I-xx Hz+2SN <i>SJ 2 SN (Pepperl+Fuchs)</i>	function to be specified at order						
I-xx Hz+3.5SN <i>SJ 3.5 SN (Pepperl+Fuchs)</i>	function to be specified at order						
I-xxx Hz <i>Si 2-K08-Y1 (Turck)</i>	function to be specified at order						
I-xxxx Hz <i>Si 2-K08-Y1 (Turck)</i>	function to be specified at order						
OPTION	EXTRA COSTS						
Lx	LIQUID FILLED CASE (ONDINA)				N.A.	N.A.	N.A.

BUILT-IN ELECTRONIC CONTACT TYPE E

TYPE E Hz

INSTRUMENT	: class 1
MINIMAL RANGE	: 60 °C
CONNECTOR	: cable junction box, SEE BELOW
HYSTERESIS	: max. 1% up and down
SETPOINT(S)	: from outside with key
WINDOW	: PMMA - plexiglass
POINTER	: black
CONTACT POINTER(S)	: red

example:

TXR100XA
+ E-12 Hz



ELECTRICAL SWITCH CAPACITY

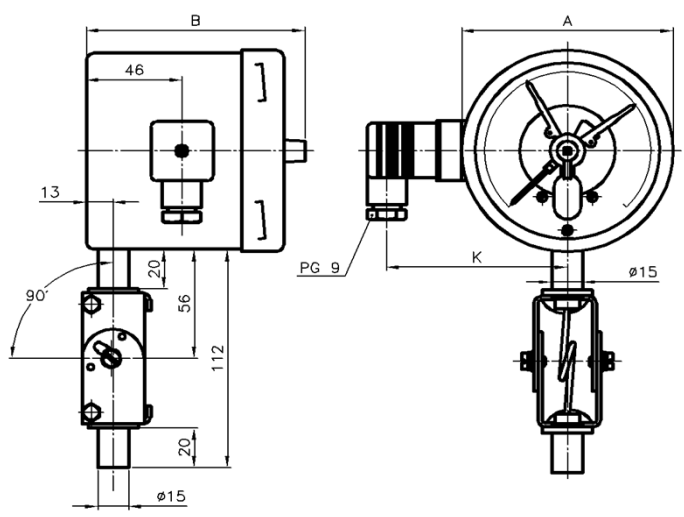
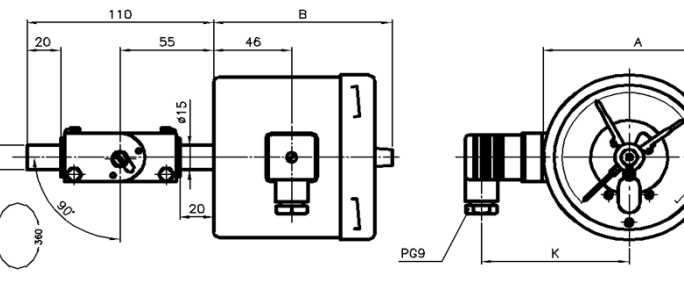
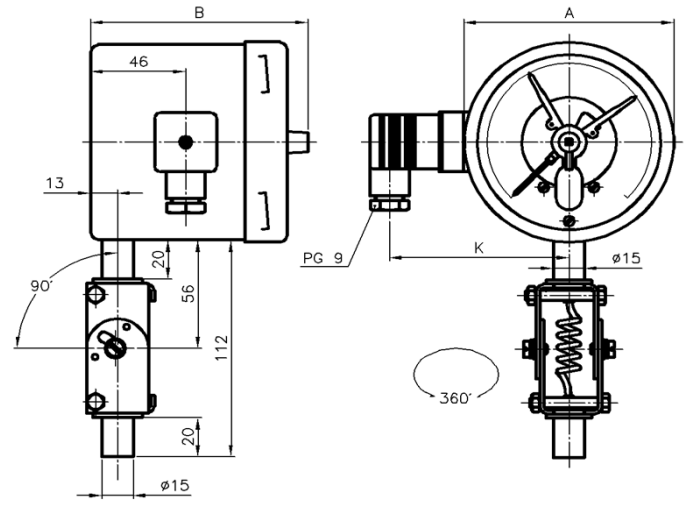
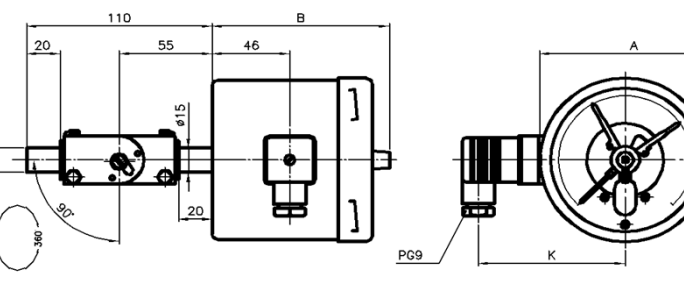
Nominal voltage	: 10...30 V dc
Proximity sensor	: Si-K08-AP6 (Turck)
Output	: 3-wire, PNP
Regulations	: EN 60947-5-2

CONTACT TYPE	SWITCH FUNCTION	CABLE JUNCTION BOX	CASE DIMENSIONS				
			100	160	96x96	144x144	72x144
E-1 Hz		<p>Hirschmann</p>					
E-2 Hz							
E-11 Hz		<p>Wiebrock</p>					
E-12 Hz							
E-21 Hz							
E-22 Hz							
E-xxx Hz	function to be specified with order		O.D.	O.D.	O.D.	O.D.	N.A.
E-xxxx Hz	function to be specified with order		O.D.	O.D.	O.D.	O.D.	N.A.
OPTION			EXTRA COSTS				
Lx	LIQUID FILLED CASE (ONDINA)				N.A.	N.A.	N.A.

THERMOMETERS TYPE TXR WITH CONTACT



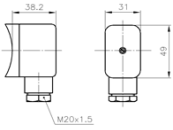
TYPE	DRAWING	DIMENSIONS mm																										
<p>A</p> <p><i>TXRxxxXA</i></p> <p>Hirschman cable junction box</p>		<table border="1"> <thead> <tr> <th rowspan="2">DIM.</th> <th colspan="2">CASE DIAMETER</th> </tr> <tr> <th>100</th> <th>160</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>101</td> <td>161</td> </tr> <tr> <td>B</td> <td>104</td> <td>108</td> </tr> <tr> <td>K</td> <td>92</td> <td>122</td> </tr> </tbody> </table>	DIM.	CASE DIAMETER		100	160	A	101	161	B	104	108	K	92	122												
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THERMOMETERS TYPE TXR WITH CONTACT

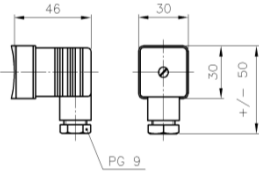
TYPE	DRAWING	DIMENSIONS mm														
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BUILT-IN PT-100 / TRANSMITTERS

With PT-100 sensor

SENSOR : PT-100 ACCURACY : 1/3 DIN class B, IEC751 INSTRUMENT : class 1 MINIMAL RANGE : 60 °C BULB SIZE : minimal Ø8 mm CONNECTOR : cable junction box, SEE BELOW		 <p style="text-align: center;">TXR100XA + PT-100</p>	 <p style="text-align: center;">TXR100XA + TRP</p>				
TYPE	FUNCTION	CABLE JUNCTION BOX	CASE DIMENSIONS				
			100	160	96x96	144x144	72x144
PT-100	PT-100 sensor 3 wire	 <p style="text-align: center;">Wiebrock</p>	first 100 mm bulb per 100 mm extra First 1000 mm capillary per 1000 mm extra:				
TRP	4...20 mA, 13...35Vdc, 2-wire		excluding PT-100 sensor				
TRP-EX	4...20 mA, 13...35Vdc, 2-wire EEx ia II C T6	depends on design	excluding PT-100 sensor				

With potentiometer

TYPE	FUNCTION	CABLE JUNCTION BOX	CASE DIMENSIONS				
			100	160	96x96	144x144	72x144
R	0...100 ohm, 3-wire						N.A.

ADD-ON UNITS WITH ELECTRICAL CONTACTS FOR THERMOMETERS

ADD-ON UNIT (built on top of dial) with PG cable conduit and 1500 mm cable			
DIN16085/16196 TYPE	Switch function in clockwise direction	EXTRA COSTS	
		CASE DIMENSIONS (in mm)	
MAGNETIC ADD-ON CONTACT (=30W/-50VA), TYPE: M		Ø 100	Ø 160
M -1	contact closes		
M -2	contact opens		
M -3	single change-over contact (SPDT)		
M -11	1st contact closes, 2nd contact closes		
M -12	1st contact closes, 2nd contact opens		
M -21	1st contact opens, 2nd contact closes		
M -22	1st contact opens, 2nd contact opens		
M -xx+GS	double acting contact with separate circuits		
M -xxx	triple acting contact, 1=closes, 2=opens		
INDUCTIVE ADD-ON CONTACT (=8V, Ri=1 kohm, EEx ia IIC T6), TYPE: I		Ø 100	Ø 160
I -1	contact closes (operating current)		
I -2	contact opens		
I -x+SN	single contact with safety oscillator (SN)		
I -11	1st contact closes, 2nd contact closes		
I -12	1st contact closes, 2nd contact opens		
I -21	1st contact opens, 2nd contact closes		
I -22	1st contact opens, 2nd contact opens		
I -xx+SN	double contact with safety oscillator (SN)		

OPTIONS FOR ELECTRICAL CONTACTS

OPTIONS	DESCRIPTION	Ø 100	Ø 160	96 x 96	144 x 144	72 x 144
OIL FILLING	for HZ electrical contacts only			N.A.	N.A.	N.A.
CABLE	Cable connected to junction box for HZ electrical contacts	First 1500 mm:		per 1000 mm extr		
MSR-010	Protection relay for single acting contacts (supply 230Vac)					
MSR-020	Protection relay for double acting contacts (supply 230Vac)					
WE 77/Ex-1	Protection relay for single inductive contacts Eex ia ib IIC 230Vac					
WE 77/Ex-2	Protection relay for double inductive contacts Eex ia ib IIC 230 Vac					

INTERNATIONAL EXPLANATION OF CONTACT FUNCTIONS

CONTACT FUNCTIONS EXPLAINED WITH CLOCKWISE POINTER ROTATION

English						
STIKO contact	Magnetic	Inductive	Electrical	Translation:		
1				NO	HIGH	Normally open; makes on rise
2				NC	LOW	Normally closed, breaks on rise
Deutsch						
STIKO contact	Magnetspring	Induktiv	Elektronik	Übersetzung:		
1				NO		Schließer
2				NC		Öffner
Français						
STIKO contact	Magnétique	Inductive	Électronique	Traduction:		
1				FM	MAXI	Fermeture a maxima
2				OM	MINI	Ouverture a maxima
Italiano						
STIKO contact	Magnetico	Induttivo	Elettrico	Traduzione		
1				NA		Normalmente aperto
2				NC		Normalmente chiuso
Español						
STIKO contact	Magnético	Inductivo	Eléctrico	Traducción		
1				NA		Normalmente abierto
2				NC		Normalmente cerrado

STAINLESS STEEL POCKETS (WELDED)

WELDED POCKETS (THREADED), $P_{max} = 25 \text{ bar}$

STANDARD MODEL:

MATERIAL	: AISI304/1.4301, AISI321/1.4541
CONNECTION FOR TYPE 02; 04	: 1/2"BSP, type B, see page 8, 25
CONNECTION FOR TYPE 03; 05	: 1/2"BSP, type A04 or CSx see page 8, 9, 25, 26
OPTIONS	: other stem diameters others threads



Type 02

THREADED TYPE		STANDARD DIMENSIONS (in mm)									COSTS	per 100 mm extra
02	03	bulb dia.	L pocket	d1	d2	d3	T	D	HEX-1	HEX-2		
<p>$L1 = L\text{-pocket} + 20 \text{ mm}$</p>	<p>For type CS1, 2, 3 $L1 = L\text{-pocket} + 10 \text{ mm}$</p> <p>For type A04 $L1 = L\text{-pocket}$</p>	10	100	1/2"BSP	1/2"BSP	10.5	14	12.5	22	27		
		10	100	1/2"BSP	3/4"BSP	10.5	16	12.5	27	32		
		10	100	1/2"BSP	1"BSP	10.5	18	12.5	36	36		
		10	100	1/2"BSP	1/2"NPT	10.5	20	12.5	22	27		
		10	100	1/2"BSP	3/4"NPT	10.5	20	12.5	27	32		
		10	100	1/2"BSP	1"NPT	10.5	25	12.5	36	36		
		10	100	1/2"BSP	M20x1.5	10.5	14	12.5	22	27		
		10	100	1/2"BSP	M24x1.5	10.5	14	12.5	27	27		
		12,5	63	1/2"BSP	1/2"BSP	13	14	15	22	27		
		12,5	63	1/2"BSP	3/4"BSP	13	16	15	27	32		
		12,5	63	1/2"BSP	1"BSP	13	18	15	36	36		
		12,5	63	1/2"BSP	1/2"NPT	13	20	15	22	27		
		12,5	63	1/2"BSP	3/4"NPT	13	20	15	27	32		
		12,5	63	1/2"BSP	1"NPT	13	25	15	36	36		
12,5	63	1/2"BSP	M24x1.5	13	14	15	27	27				

WELDING TYPE		STANDARD DIMENSIONS (in mm)									COSTS	per 100 mm extra
04	05	bulb dia.	L pocket	d1	d2	d3	T	D	HEX-1	HEX-2		
<p>$L1 = L\text{-pocket} + 20 \text{ mm}$</p>	<p>For type CS1, 2, 3 $L1 = L\text{-pocket} + 10 \text{ mm}$</p> <p>For type A04 $L1 = L\text{-pocket}$</p>	10	100	1/2"BSP	18	10.5	14	12.5	22	27		
		10	100	1/2"BSP	23	10.5	16	12.5	27	32		
		10	100	1/2"BSP	28	10.5	18	12.5	36	36		
		12.5	63	1/2"BSP	18	13	14	15	22	27		
		12.5	63	1/2"BSP	23	13	16	15	27	32		
		12.5	63	1/2"BSP	28	13	18	15	36	36		

OTHER DESIGNS, BULB DIAMETERS AND MATERIALS ON DEMAND
MATERIAL CERTIFICATE ACC TO EN 10204 3.1 see page 29

STAINLESS STEEL THERMOWELL (BAR STOCK)

*All styles are available; in SS316L, MONEL, DUPLEX, Titanium
Also available with PTFE / HALAR / PFA coating*



Please contact us for the possibilities