Ordering Information

NOTE
Order codes cannot be combined at will. Your ABB partner will be happy to answer any questions you might have regarding installation feasibility. All documentation, declarations of conformity, and certificates are available in ABB's download area.

SensyTemp TSP111

Base model	**TSP111**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**
SensyTemp TSP111 Temperature Sensor, without thermowell, for light and medium duty applications											
Explosion Protection / Approvals											
Without		Y0									
Intrinsic Safety ATEX II 1 G Ex ia IIC T6…T1 Ga or II 2 G Ex ib IIC T6…T1 Gb or II 1/2 G Ex ib IIC T6…T1 Ga/Gb		A1									
Non-sparking and increased safety as well as dust explosion protection ATEX II 3 G Ex nA IIC T6...T1 Gc, ATEX II 3 G Ex ec IIC T6...T1 Gc und ATEX II 3 D Ex tc IIIB T133°C Dc		B1*									
Intrinsic safety IECEx ia IIC T6…T1 Ga		H1									
Intrinsic Safety IECEx ib IIC T6…T1 Gb or IECEx ib IIC T6…T1 Ga/Gb		H2									
Intrinsic Safety acc. NAMUR NE 24 and ATEX II 1 G Ex ia IIC T6…T1 Ga		N1									
GOST Russia - metrological approval		G1									
GOST Russia - metrological approval and EAC-Ex, Ex i - Zone 0		P2									
GOST Kazakhstan - metrological approval		G3									
GOST Kazakhstan - metrological approval and EAC-Ex, Ex i - Zone 0		T2									
GOST Belarus - metrological approval		M5									
GOST Belarus - metrological approval and EAC-Ex, Ex i - Zone 0		U2									
NEPSI Intrinsic Safety type of protection: Ex ia IIC T6 Ga		S1									
Extension Tube Length											
Without Extension Tube			Y0								
K = 150 mm (6 in)			K1								
Customer specific length			Z9								

* According EN 60079- and EN 60079-31, the application in hybrid mixtures (concomitance of potentially explosive dust and gas) is currently not allowed.

Continued see next page

… Ordering Information

Base model	**TSP111**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**
Thermowell Connection									
No extension / Connection head with thread M24 × 1,5		W1							
No extension / Connection head with thread 1/2 in NPT		W2							
No extension / Connection head with lock nut M24 × 1.5		W3							
Double nipple G ½ A		W4							
Double nipple ½ in NPT		W5							
Extension tube with Cylindrical thread G ½ A		G1							
Extension tube with Cylindrical thread G ¾ A		G2							
Extension tube with Cylindrical thread G ⅜ A		G3							
Extension tube with Cylindrical thread M14 × 1,5		M1							
Extension tube with Cylindrical thread M18 × 1,5		M2							
Extension tube with Cylindrical thread M20 × 1,5		M3							
Extension tube with Cylindrical thread M24 × 1,5		M4							
Extension tube with Cylindrical thread M27 × 2		M5							
Extension tube with conycal thread ½ in NPT		N1							
Nipple ½ in NPT–½ in NPT		N2							
Nipple- Union / ½ in NPT–½ in NPT		N3							
Nipple-Union ½ in NPT–½ in NPT		N4							
Extension tube / Gland nut M24 × 1.5 / Union G ½ A		U1							
Extension tube / Gland nut M24 × 1.5 / Union G ¾ A		U2							
Extension tube / Gland nut M24 × 1.5 / Union G 1 A		U3							
Extension tube / Gland nut M24 × 1.5 / Union M20 × 1.5		U4							
Extension tube / Gland nut M24 × 1.5 / Union M27 × 2		U5							
Extension with Male nut, thread G ½ in		U6							
Extension tube with adjustable compression fitting G ½ A		A1							
Extension tube with adjustable compression fitting ½ in NPT		A2							
Others		Z9							
Immersion Length									
U = 140 mm (5.6 in)			U2						
U = 200 mm (8 in)			U4						
U = 260 mm (10.3 in)			U6						
Customer specific length			Z9						

Continued see next page

Base model	**TSP111**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**
Measuring Inset Type							
RTD, TF, Basic application, measuring range −50 to 400 °C (−58 to 752 °F), 10 g		S1					
RTD, TF, Extended vibration resistance, measuring range −50 to 400 °C (−58 to 752 °F), 60 g		S2					
RTD, WW, Extended measuring range −196 to 600 °C (−321 to 1112 °F), 10 g		D1					
RTD, WW, Extended vibration resistance, extendend measuring range −196 to 600 °C (−321 to 1112 °F), 60 g		D3					
RTD, adjustable to German calibration regulations, sign of app. 000/308 - without calibration		E1					
RTD, custody preliminary, adjustable to German calibration regulations, sign of app. 000/308 - with calibration −10 °C and +50 °C		E2					
Thermocouple		T1					
Others		Z9					
Measuring Inset Diameter							
3 mm			D3				
4.5 mm			D4				
6 mm			D6				
8 mm			D8				
8 mm (0,32 in), tip with sleeve, DIN 43735 Sleeve 80 mm (RTD), 20 mm (TC)			H8				
10 mm (0,4 in), tip with sleeve Sleeve 80 mm (RTD), 20 mm (TC)			H1				
Others			Z9				
Sensor Type and Wiring							
1 × Pt100, 2-wire				P1			
1 × Pt100, 3- wire				P2			
1 × Pt100, 4- wire				P3			
2 × Pt100, 2- wire				P4			
2 × Pt100, 3- wire				P5			
2 × Pt100, 4- wire (with integrated transmitter only one Pt100 is connected)				P6			
1 × Pt1000, 2- wire				P8			
1 × Pt1000, 3- wire				P7			
1 × Pt1000, 4- wire				P9			
1 × Type K (NiCr-NiAl)				K1			
2 × Type K (NiCr-NiAl)				K2			
3 × Type K (NiCr-NiAl)				K3			
1 × Type J (Fe-CuNi)				J1			
2 × Type J (Fe-CuNi)				J2			
1 × Type L (Fe-CuNi)				L1			
2 × Type L (Fe-CuNi)				L2			
1 × Type N (NiCrSi-NiSi)				N1			
2 × Type N (NiCrSi-NiSi)				N2			
1 × Type T (Cu-CuNi)				T1			
2 × Type T (Cu-CuNi)				T2			
1 × Type E (NiCr-CuNi)				E1			
2 × Type E (NiCr-CuNi)				E2			
1 × Type S (Pt10Rh-Pt)				S1			
2 × Type S (Pt10Rh-Pt)				S2			
Others				Z9			

Continued see next page

… Ordering Information

Base model	**TSP111**	**XX**	**XX**	**XX**
Sensor Accuracy				
Accuracy Class B, IEC 60751		B2		
Wire Wound, Double, Accuracy Class A, IEC 60751, Range 0 to 250 °C (32 to 482 °F)		D2		
Wire Wound, Accuracy Class A, IEC 60751, Range -100 to 450 °C (-148 to 842 °F)		D1		
Thin Film, Accuracy Class A, IEC 60751, Range -30 to 300 °C (-22 to 572 °F)		S1		
Thin Film, Accuracy Class AA, IEC 60751, Range 0 to 100 °C (32 to 212 °F)		S3		
Thermocouple, Accuracy Class 2, IEC 60584		T2		
Thermocouple, Accuracy Class 1, IEC 60584		T1		
Thermocouple, Standard Accuracy ANSI MC96.1		T4		
Thermocouple, Special Accuracy ANSI MC96.1		T3		
Thermocouple, Accuracy according to DIN 43710		T5		
Others		Z9		
Connection Head Type / Material				
BUZ / Aluminum, flat cover, hinged			B1	
BUZH / Aluminum, high cover, hinged			B2	
BUZHD / Aluminium, high cover with display, hinged			B3	
BUKH / Polyamide, high cover, hinged			K1	
BEG / Stainless steel, screwed cover			E1	
BUS / Aluminium, hinged cover with snap lock			B4	
BUSH / Aluminium, high cover, hinged with snap lock			B5	
BBK / Polyamid, screwed cover			K2	
B / Aluminum, cover held on with screws			B6	
BH / Aluminium, high cover			B7	
BUG / Cast iron, hinged cover			G1	
Others			Z9	
Transmitter				
Without transmitter, sensor with ceramic terminal block - spring loaded				Y1
Without transmitter, sensor with flying leads and metal plate - spring loaded				Y2
TTH300-HART, programmable, output signal 4 to 20 mA, dual input				H4
TTH300-HART, Ex version, programmable, output signal 4 to 20 mA, dual input				H5
TTH300-PA, programmable, output PROFIBUS PA, dual input				P6
TTH300-PA, Ex version, programmable, output PROFIBUS PA, dual input				P7
TTH300-FF, programmable, output FOUNDATION Fieldbus H1, dual input				F6
TTH300-FF, Ex version, programmable, output FOUNDATION Fieldbus H1, dual input				F7
TTH200-HART, programmable, output signal 4 to 20 mA				H6
TTH200-HART, Ex version, programmable, output signal 4 to 20 mA				H7

Additional ordering information SensyTemp TSP111

	XX	XX	XX	XX
Transmitter Measuring Range				
Standard measuring range	A0			
Customer-specific measuring range	AZ			
Declarations and certificates				
Declaration of compliance according EN 10204-2.1, with the order		C4		
Test report according EN 10204-2.2 for batch values, MIC-TC		C5		
Test report according EN 10204-2.2 for measuring of insulaionsresistance at ambient temperature		CN		
Inspection certificate according EN 10204-3.1, visual, dimensional and functional test		C6		
Inspection certificate according EN 10204-3.1, helium leakage test		C7		
Inspection certificate according EN 10204-3.1, sensor tolerance		CC		
SIL2 declaration of conformity in accordance with IEC 61508 for sensor with integrated transmitter, HART		CS		
Inspection certificate according EN 10204-3.1, sensor calibration, single RTD		CD		
Inspection certificate according EN 10204-3.1, sensor calibration, double RTD		CE		
Inspection certificate according EN 10204-3.1, sensor calibration, single thermocouple		CF		
Inspection certificate according EN 10204-3.1, sensor calibration, double thermocouple		CG		
DAkkS sensor calibration, single RTD, calibration certificate per thermometer		CH		
DAkkS sensor calibration, double RTD, calibration certificate per thermometer		CJ		
DAkkS sensor calibration, single thermocouple, calibration certificate per thermometer		CK		
DAkkS sensor calibration, double thermocouple, calibration certificate per thermometer		CL		
Others		CZ		
Number of Calibration Test Points				
1 point			P1	
2 points			P2	
3 points			P3	
4 points			P4	
5 points			P5	
Temperatures for Sensor Calibration				
Standard calibration: 0 °C (32 °F)				V1
Standard calibration: 100 °C (212 °F)				V2
Standard calibration: 400 °C (752 °F)				V3
Standard calibration: 0 °C and 100 °C (32 °F and 212 °F)				V4
Standard calibration: 0 °C and 400 °C (32 °F and 752 °F)				V5
Standard calibration: 0 °C, 100 °C and 200 °C (32 °F, 212 °F and 392 °F)				V7
Standard calibration: 0 °C, 200 °C and 400 °C (32 °F, 392 °F and 752 °F)				V8
Standard calibration: Customer specific temperatures				V6
DAkkS calibration: 0 °C (32 °F)				D1
DAkkS calibration: 100 °C (212 °F)				D2
DAkkS calibration: 400 °C (752 °F)				D3
DAkkS calibration: 0 °C and 100 °C (32 °F and 212 °F)				D4
DAkkS calibration: 0 °C and 400 °C (32 °F and 752 °F)				D5
DAkkS calibration: 0 °C, 100 °C and 200 °C (32 °F, 212 °F and 392 °F)				D7
DAkkS calibration: 0 °C, 200 °C and 400 °C (32 °F, 392 °F and 752 °F)				D8
DAkkS calibration: Customer specific temperatures				D6

… Ordering Information

Additional ordering information SensyTemp TSP111 (Continuation)	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**
Extension Tube Diameter Options							
Extension Diameter 14.0 mm	N1						
Extension Diameter 11.0 mm	N2						
Extension Tube Options							
Extension tube welded with measuring inset, gas tight		N3					
Extension tube oil tight up to 3 bar		N4					
Mounting bracket		N5					
Threaded Connection Options							
Adjustable compression fitting G ¼, stainless steel material			K1				
Adjustable compression fitting G ¼, stainless steel material, olive material PTFE			K2				
Adjustable compression fitting G ½, stainless steel material			K3				
Adjustable compression fitting G ½, stainless steel material, olive material PTFE			K4				
Adjustable compression fitting M18 × 1.5, stainless steel material			K5				
Adjustable compression fitting ½ in NPT, stainless steel material			K6				
Adjustable compression fitting ½ in NPT, stainless steel material, olive material PTFE			K7				
Spring loaded adjustable compression fitting G ½, stainless steel material			K8				
Spring loaded adjustable compression fitting M18 × 1.5, stainless steel material			K9				
Others			KZ				
Measuring Inset: Option							
Hot junction grounded				J1			
2 insets paired from 0 to 100 °C (32 to 212 °F), max. deviation 0.1 K				J3			
Upgrading Sensor Accuracy to Cl. A, 0 to 600°C				J7			
Improvement Sensor Accuracy to 0.5 Cl. A, 0 to 100°C, U>100 mm				J8			
Improvement Sensor Accuracy to 0.5 Cl. A, 0 to 400°C, U>250 mm				J9			
Measuring Inset: Transmitter Mounted							
Transmitter mounted on inset, without ceramic block					J2		
Measuring Inset: Other Options							
Others						JZ	
Connection Head Options							
Second transmitter mounted in connection head (same type as first one)							H1
Connection head seawater-resistant, painted grey-white							H3
Others							HZ

Additional ordering information SensyTemp TSP111 (Continuation)	**XX**	**XX**	**XX**	**XX**	**XX**	**XX**
Cable Entry Options						
1 × M20 × 1.5, without cable gland	U1					
1 × ½ in NPT, without cable gland	U2					
1 × ¾ in NPT, without cable gland	U3					
2 × M20 × 1.5, without cable gland	U4					
2 × M20 × 1.5, with cable gland skintop, temperature range −40 to +70 °C (−40 to +158 °F), cable diameter 4 to 13 mm (0.16 to 0.51 inch)	U7					
Harting Han 7D plug and socket connection	UG					
Harting Han 8D (8U) plug and socket connection	UH					
M12 plug for PROFIBUS PA	UJ					
⅞ in plug for FOUNDATION Fieldbus	UK					
Others	UZ					
Display Type						
LCD indicator type AS		L1				
Configurable LCD Indicator type A		L2				
Other Options						
Thermometer silicone-free			PS			
With fastened gasket			PD			
Earth screw external			PG			
Each Thermometer single packed - Polyethylen			PN			
Documentation Language						
German				M1		
English				M5		
Language package Western Europe / Scandinavia (Languages: DA, ES, FR, IT, NL, PT, FI, SV)				MW		
Language package Eastern Europe (Languages: EL, CS, ET, LV, LT, HU, HR, PL, SK, SL, RO, BG)				ME		
Additional TAG Plate						
Stainless steel plate with TAG no.					T1	
Additional Identification Plate						
Stainless steel plate with customer specific text						T2
Adhesive label						T3