

List of parameterizable operating data (Order codes A ■ ■ ■ + B ■ ■ ■ ... E ■ ■ ■)

Operating data acc. to default setting Order No. with Order code: 7NG3242 - ■ ■ ■ ■ ■ -Z Y01

Order codes: A ■ ■ ■ ... E ■ ■ ■

Sensor									
Thermocouples			Connection		Cold junction compensation			Measuring ranges	
Type	Temperature range								
B: Pt30 %Rh/Pt6 %Rh	0 ... 1820 °C	A 0 0	Standard	B 0 1	None	C 0 0		-30 ... +60 °C	E 0 0
C: W5 %Re	0 ... 2300 °C	A 0 1	Sum n ¹⁾ n = 2	B 0 2	Internal	C 1 0		-20 ... +20 °C	E 0 1
D: W3 %Re	0 ... 2300 °C	A 0 2	...	B 1 0	Fixed val. 0 °C	C 2 0		0 ... 40 °C	E 0 2
E: NiCr/CuNi	-200 ... +1000 °C	A 0 3	n = 10	B 1 0	20 °C	C 2 2		0 ... 60 °C	E 0 3
J: Fe/CuNi (IEC)	-210 ... +1200 °C	A 0 4	Difference ²⁾ Diff1	B 3 1	50 °C	C 2 5		0 ... 80 °C	E 0 4
K: NiCr/Ni	-200 ... +1372 °C	A 0 5	Diff2	B 3 2	60 °C	C 2 6		0 ... 100 °C	E 0 5
L: Fe/CuNi (DIN)	-200 ... +900 °C	A 0 6	Mean-val. ²⁾ MW	B 4 1	70 °C	C 2 7		0 ... 120 °C	E 0 6
N: NiCrSi/NiSi	-200 ... +1300 °C	A 0 7			Special value ⁷⁾	Y 1 0		0 ... 150 °C	E 0 7
R: Pt13 %Rh/Pt	-50 ... +1760 °C	A 0 8			External meas.	Y 1 1		0 ... 200 °C	E 0 8
S: Pt10 %Rh/Pt	-50 ... +1760 °C	A 0 9			(through Pt100			0 ... 250 °C	E 0 9
T: Cu/CuNi (IEC)	-200 ... +400 °C	A 1 0			DIN IEC 751) ⁷⁾			0 ... 300 °C	E 1 0
U: Cu/CuNi (DIN)	-200 ... +600 °C	A 1 1						0 ... 350 °C	E 1 1
								0 ... 400 °C	E 1 2
								0 ... 450 °C	E 1 3
								0 ... 500 °C	E 1 4
								0 ... 600 °C	E 1 5
								0 ... 700 °C	E 1 6
								0 ... 800 °C	E 1 7
								0 ... 900 °C	E 1 8
								0 ... 1000 °C	E 1 9
								0 ... 1200 °C	E 2 0
								0 ... 1400 °C	E 2 1
								0 ... 1600 °C	E 2 2
								0 ... 1800 °C	E 2 3
								50 ... 100 °C	E 2 4
								50 ... 150 °C	E 2 5
								100 ... 200 °C	E 2 6
								100 ... 300 °C	E 2 7
								100 ... 400 °C	E 2 8
								200 ... 300 °C	E 2 9
								200 ... 400 °C	E 3 0
								200 ... 500 °C	E 3 1
								300 ... 600 °C	E 3 2
								500 ... 1000 °C	E 3 3
								600 ... 1200 °C	E 3 4
								800 ... 1600 °C	E 3 5
								Special range ⁷⁾	Y 3 0
Resistance thermometer			Connection		Connection		Line resistance ³⁾		
(or max. permissible line resistance see „Technical specifications“)									
Pt100 (DIN IEC)	-200 ... +850 °C	A 2 0	Standard	B 0 1	2-wire-system	C 3 2	0 Ω	D 0 0	0 ... 100 °C
Pt100 (JIS)	-200 ... +649 °C	A 2 1	Sum n ⁴⁾ n = 2	B 0 2	3-wire-system	C 3 3	10 Ω	D 1 0	0 ... 200 °C
Ni100 (DIN)	-60 ... +250 °C	A 2 2	...	B 1 0	4-wire-system	C 3 4	20 Ω	D 2 0	0 ... 500 °C
			n = 10	B 1 0			50 Ω	D 5 0	0 ... 1000 °C
			n = 0.1	B 2 1			Special val. ⁷⁾	Y 2 0	0 ... 1200 °C
			n = 0.2	B 2 2					0 ... 1400 °C
			n = 0.5	B 2 5					0 ... 1600 °C
			Special value ^{6) 7)}	Y 0 0					0 ... 1800 °C
			Difference ²⁾ Diff1	B 5 1					50 ... 100 °C
			Diff2	B 5 2					50 ... 150 °C
			Mean-val. ²⁾ MW	B 6 1					100 ... 200 °C
									100 ... 300 °C
									100 ... 400 °C
									200 ... 300 °C
									200 ... 400 °C
									200 ... 500 °C
									300 ... 600 °C
									500 ... 1000 °C
									600 ... 1200 °C
									800 ... 1600 °C
									Special range ⁷⁾
Resistance-based sensors, potentiometers			Connection		Connection		Line resistance ³⁾		Measuring ranges
(or max. permissible line resistance see „Technical specifications“)									
		A 3 0	Standard	B 0 1	2-wire-system	C 3 2	0 Ω	D 0 0	0 ... 100 Ω
			Difference ²⁾ Diff1	B 5 1	3-wire-system	C 3 3	10 Ω	D 1 0	0 ... 200 Ω
			Diff2	B 5 2	4-wire-system	C 3 4	20 Ω	D 2 0	0 ... 500 Ω
			Mean val. ²⁾ MW	B 6 1			50 Ω	D 5 0	0 ... 1000 Ω
							Special val. ⁷⁾	Y 2 0	0 ... 2500 Ω
									0 ... 5000 Ω ⁸⁾
									0 ... 6000 Ω ⁸⁾
									Special range ⁷⁾

mV, V and μA, mA sensors ⁹⁾	A 4 0	Meas. range with Order No.	7NG 3242 - ■ ■ ■ ■ ■	-Z Y01		E 5 0
					0	-120 ... +1000 mV
					1	-1,2 ... +10 V ¹⁰⁾
					2	-12 ... +100 V ¹⁰⁾
					3	-120 ... +140 V ¹⁰⁾
					4	-12 ... +100 μA ¹⁰⁾
					5	-120 ... +1000 μA ¹⁰⁾
					6	-1,2 ... +10 mA ¹⁰⁾
					7	-12 ... +100 mA ¹⁰⁾
					8	-120 ... +1000 mA ¹⁰⁾
						Special range ⁷⁾
						Y 3 2

- 1) n = number of thermocouple elements to be connected in series
- 2) See „Circuit diagrams“ for meaning of type circuit
- 3) Line resistance of channels 1 and 2, for max. permissible line resistance see „Technical specifications“ (only with C32, not with C33 and C34)
- 4) n = number of resistance thermometers to be connected in series
- 5) 1/n = number of resistance thermometers to be connected in parallel
- 6) Combination of series and parallel connection of resistance thermometers
- 7) Operating data: see „Special operating data“
- 8) This range does not apply to mean-value and difference circuits.
- 9) The max. permissible currents and voltages according to conformity certificate must be observed in devices with explosion protection.
- 10) Without detection of line breakage

List of parameterizable operating data (Order codes F ... K)

Operating data according to default setting		Order No. with Order code: 7NG3242 - -Z Y01									
Order codes: F ... K			+		+		+		+		
Sensor											
Thermocouple elements			Voltage measurement		Filter time ¹⁾		Output signal and line filter ²⁾		Failure signal	Limit monitor ³⁾	
Type	Temperature range										
B: Pt30 %Rh/ C:W5 %Re	0 ... 1820 °C	A 0 0	Temperature-linear	F 0 0	0 s	G 0 0	4 ... 20 mA/ 2 ... 10 V	with line break- age/fault:	Limit monitor- ing ineffective (but sensor fault signalling with closed- circuit opera- tion)	K 0 0	
D:W3 %Re	0 ... 2300 °C	A 0 1		0.1 s	G 0 1	with line filter:					
E:NiCr/CuNi	-200 ... +1000 °C	A 0 2	Voltage-linear	F 1 0	0.2 s	G 0 2	50 Hz	to full scale	J 0 0		
J:Fe/CuNi (IEC)	-210 ... +1200 °C	A 0 3		0.5 s	G 0 3	60 Hz	to start of scale	J 0 1			
K:NiCr/Ni	-200 ... +1372 °C	A 0 4	1 s	G 0 4	10 Hz ⁴⁾	hold last value	J 0 2				
L: Fe/CuNi (DIN)	-200 ... +900 °C	A 0 5			2 s	G 0 5					
N:NiCrSi/NiSi	-200 ... +1300 °C	A 0 6			5 s	G 0 6	0 ... 20 mA/ 0 ... 10 V	no monitoring	J 0 3	Effective ⁵⁾	
R:Pt13 %Rh/Pt	-50 ... +1760 °C	A 0 7			10 s	G 0 7	with line filter:				
S:Pt10 %Rh/Pt	-50 ... +1760 °C	A 0 8			20 s	G 0 8	50 Hz	Safety value ⁵⁾	Y 6 0		Y 7 0
T:Cu/CuNi (IEC)	-200 ... +400 °C	A 0 9			50 s	G 0 9	60 Hz				
U:Cu/CuNi (DIN)	-200 ... +600 °C	A 1 0			100 s	G 1 0	10 Hz				
		A 1 1			Special time ⁵⁾	Y 5 0					
Resistance thermometer (max. permissible line resistances see „Technical specifications“)			Voltage measurement		Filter time ¹⁾		Output signal and line filter ²⁾		Failure signal	Limit monitor ³⁾	
Pt100 (DIN IEC)	-200 ... +850 °C	A 2 0	Temperature-linear	F 0 0	same as for thermocou- ple ele- ments	same as for thermocou- ple elements	with line break- age/fault:	to full scale to start of scale hold last value	J 0 0 J 0 1 J 0 2	same as for thermocouple elements	
Pt100 (JIS)	-200 ... +649 °C	A 2 1									
Ni100 (DIN)	-60 ... +250 °C	A 2 2	Resistance-linear	F 2 0							
								no monitoring	J 0 3		
								Safety value ⁵⁾	Y 6 0		
								with line break- age or short-cir- cuit/fault:			
								to full scale	J 1 0		
								to start of scale	J 1 1		
								hold last value	J 1 2		
								no monitoring	J 1 3		
								Safety value ⁵⁾	Y 6 1		
Resistance-based sensors, potenti- ometers (max. permissible line resistances see „Technical specifications“)		A 3 0	Voltage measurement		Filter time ¹⁾		Output signal and line filter ²⁾		Failure signal	Limit monitor ³⁾	
			Resistance-linear	F 2 0	same as for thermocou- ple ele- ments	same as for thermocou- ple elements	with line break- age/fault:	to full scale to start of scale hold last value	J 0 0 J 0 1 J 0 2	same as for thermocouple elements	
								no monitoring	J 0 3		
								Safety value ⁵⁾	Y 6 0		
mV, V and µA, mA sources		A 4 0	Voltage measurement		Filter time ¹⁾		Output signal and line filter ²⁾			Limit monitor ³⁾	
			Source pro- portional	F 3 0	same as for thermocou- ple ele- ments	same as for thermocou- ple elements				same as for thermocouple elements	

1) Software filter to smooth the result

2) Filter to suppress line disturbances on the measured signal.

3) If signalling relay present

4) for special applications

5) Operating data: see „Special operating data“

Special operating data

Order code	Plain text required	Options
Y00	N=□□.□□	Factor N for multiplication with the characteristic values of resistance thermometers Range of values: 0.10 to 10.00 1. Example: 3 x Pt500 parallel: N = 5/3 = 1.667; 2. Example: Ni120: N = 1.2
Y10	TV=□□□□.□□ D=□	Temperature TV of the fixed cold junction Dimension; range of values: C, K, F, R
Y11	RL=□□□□.□□	Line resistance RL in Ω for compensation of cold junction line of external Pt100 DIN IEC 751 Range of values: 0.00 to 100.00
Y20	RL1=□□□□.□□ RL2=□□□□.□□	Line resistances RL of channel 1 (RL1) and channel 2 (RL2) in Ω if the resistance thermometer or the resistance-based sensor is connected in a two-wire system Range of values depending on type of sensor: 0.00 to 100.00
Y30	MA=□□□□.□□ ME=□□□□.□□ D=□	Start-of-scale value MA and full-scale value ME for thermocouples and resistance thermometers (Range of values depending on type of sensor) Dimension, range of values: C, K, F, R)
Y31	MA=□□□□.□□ ME=□□□□.□□	Start-of-scale value MA and full-scale value ME for resistance-based sensors or potentiometers in Ω Range of values: 0.00 to 6,000.00
Y32	MA=□□□□.□□ ME=□□□□.□□ D=□□	Start-of-scale value MA and full-scale value ME for mV, V, μ A and mA sources Range of values depending on type of sensor: -120.00 to 1,000.00 Dimension (mV entered as MV, V as V, μ A as UA, mA as MA)
Y50	T63=□□□.□	Response time T63 of software filter in s Range of values: 0.0 to 100.0 Safety value S of signal output in mA or in V corresponding to the set type of output. Range of values - with current output: -0.50 to 23.00 - with voltage output: -0.25 to 10.75
Y60	S=□□.□□	Safety value S with line breakage of sensor
Y61	S=□□.□□	Safety value S with line breakage or short-circuit of sensor
Y70	UG=□□□□.□□ OG=□□□□.□□ H=□□□□.□□ K=□ A=□ T=□□.□	Lower limit value (dimension as defined by measuring range) Upper limit value (dimension as defined by measuring range) Hysteresis (dimension as defined by measuring range) Switch on/off combination of limit function and sensor fault detection; J=on; N=off (standard: J) Type of relay output: A=open-circuit operation; R=closed-circuit operation (standard: R) Switching delay T of relay output in s Range of values: 0.0 to 10.0 (standard: 0.0)