

Index

Displays	<ul style="list-style-type: none"> • Panel meters • Loop powered LED displays • Multichannel displays 	Page 6-11 5 10	1
Large displays	<ul style="list-style-type: none"> • Small field displays • Large field displays • Large panel meters 	5,11 12 13	2
Transmitters	<ul style="list-style-type: none"> • Head mounting temperature transmitters • Temperature/universal transmitters (DIN rail) • Multichannel transmitters • Weighing transmitters • f/I converters 	15 14-16 16 16 15	3
Signal converters	<ul style="list-style-type: none"> • Galvanic isolators and converters • Serial data converters • Power supplies 	17 18 21	4
Wireless transmitters	<ul style="list-style-type: none"> • Wireless transmitters • Wireless receivers 	22-29	5
Data acquisition software	<ul style="list-style-type: none"> • PromoLog data acquisition software 	29	6
Temperature sensors	<ul style="list-style-type: none"> • Pt100 and thermocouple sensors 	30-31	7

New products

Wireless transmitter for Humidity and Temperature FT10-RHT, page 22.



Lower cost panel meters PME600 and PME610, page 5



New large field displays, digit sizes 100 and 200 mm, page 12



RMC685 transmitter with universal input page 16



Displays

Displays

Large Displays

Transmitters

Converters

Wireless Transmitters

Software

Sensors

Loop Powered panel meter Series

Input Loop powered	Model	Page	Installation	Loop powered panel and field displays
	201, 202 301, 302 305	5	Panel Field case Field case	Loop powered displays take operating energy from 4-20 mA loop. Models 202, 302, and 306 have two alarm relays.

301, 311



Panel and Small Field displays

New!

Low cost panel meter	Model	Page	One Power supply	Description
	PME600 PME610	5	24-265 VAC/VDC	Universal input, two alarm relays Universal input, two alarm relay and output

201,202
PME600
PME610



1

	Model	Pages	Field model	Page	Description
Modular panel meter series 2000	2012	6,7	2800-2011	11	Process inputs 0/4..20 mA, 0..5/10 V
	2021	6,7	2800-2021	11	Temperature and mA/V inputs
	2026	6,7	2800-2026	11	Totalizer for mA/V inputs
	2028	6,7	2800-2028	11	Signal speed display mA/V inputs
	2041	6,8	2800-2041	11	Strain gauge sensors
	2051	6,8	2800-2051	11	Frequency display for pulse sensors
	2251	6,8	2800-2251	11	Difference display for pulse sensors
	2061	6,8	2800-2061	11	Counter
	2064	6,8	2800-2064	11	Incremental sensors (moving sensors)
	2066	6,9	2800-2066	11	Timer
Field display 2800	2067	6,9	2800-2067	11	Clock
	2071	6,9	2800-2071	11	Serial input display
	2071WMM	10	2800-2071WMM	11	Serial input display
	2081	6,9	2800-2081	11	BCD, binary, Gray code
	2022SETP	11	2800-2022SETP	11	Setpoint transmitter for mA/V outputs
	2022TANK	10	2800-2022TANK	11	Tank indicator
	541	10	-	11	Setpoint transmitter for mA/V outputs

2000 series



2800 series



2212
2078



Multichannel displays

2..8 channel displays	Model	Page	Description
	2212	11	2 channel panel display for mA/V-input, digit size 14.5 mm
	2072	9	9 channel display for transmitters with serial RS485
	538-8SC	10	8 channel display

538-8SC



Large panel and field displays, digit size 57-200 mm

Modular field displays	Panel display	Page	Field display	Pages	Description
Size: 57 mm 575F5-(X)	X-2012	15	X-2012	12-13	Process inputs 0/4..20 mA, 0..5/10 V
	X-2212	15	X-2212	12-13	Process inputs 0/4..20 mA, 0..5/10 V
	X-2021	15	X-2021	12-13	Temperature and mA/V inputs
Size: 100 mm FD100A4-(X) FD100A6-(X)	X-2026	15	X-2026	12-13	Totalizer for mA/V inputs
	X-2028	15	X-2028	12-13	Signal speed display mA/V inputs
	X-2051	15	X-2051	12-13	Frequency display for pulse sensors
Size: 200 mm FD200A4-(X) FD200A6-(X)	X-2251	15	X-2251	12-13	Difference display for pulse sensors
	X-2061	15	X-2061	12-13	Counter
	X-2064	15	X-2064	12-13	Incremental sensors (position sensors)
Modular large panel meters	X-2066	15	X-2066	12-13	Timer
	X-2067	15	X-2067	12-13	Clock
	X-2071	15	X-2071	12-13	Serial input display
	X-2081	15	X-2081	12-13	BCD, binary, Gray code

541



575F, FD100, FD200

Loop Powered Displays

Loop powered displays do not need external power supply

201/202/PME600, PME610



Depth of the case is only 70 mm

301/302/311/312



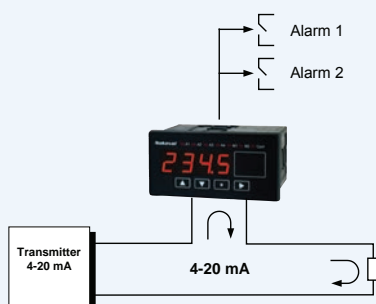
305

New!

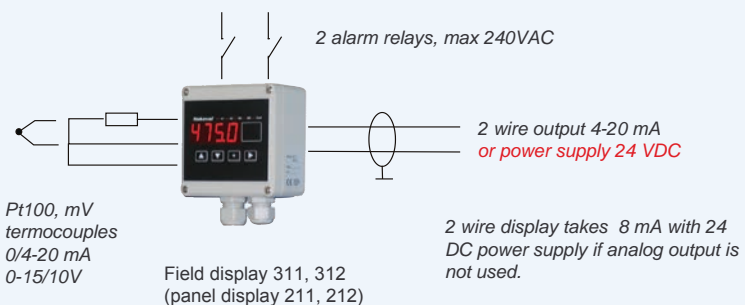
	Loop Powered Displays		Loop Powered Displays		Loop Powered Display	2 wire Field Displays		Low Cost Panel Meters	
Model	201	202	301	302	305	311	312	PME600	PME610
Manufacturer	Nokeval		Nokeval		Nokeval	Nokeval		Nokeval	
Enclosure	96 x 48 x 70 mm WHD		100 x 100 x 57 mm WHD		80 x 80 x 57 mm WHD	100 x 100 x 57 mm WHD		96 x 48 x 70 mm WHD	
Digit size	14.5 mm		14.5 mm		14.5 mm	14.5 mm		14.5 mm	
Number of digits	4 digits		4 digits		4 digits	4 digits		4 digits	
Display color	Red LED		Red LED		Red LED	Red LED		Red LED	
Inputs	4-20 mA (Loop powered) Operating energy from input loop		4-20 mA (Loop powered) Operating energy from input loop		4-20 mA (Loop powered) Operating energy from input loop	Thermocouples: T type max. 400°C K, N 1200°C J, J/DIN, E 900°C S, R, B, G 1700°C C, D 2200°C Pt100 -200...+700°C 4..20 mA/0..10V, 0..100 mV		Thermocouple: K -150..+1200°C RTD: Pt100 -200...+700°C Process inputs: 0-20 mA, 4..20 mA 0..10V -70..+70 mV	
Accuracy	0.05% of span		0.05% of span		0.05% of span	0.05% of span		0.05% of span	
Resolution	1 / 32 000, 15 bit		1 / 32 000, 15 bit		1 / 32 000, 15 bit	1 / 64 000, 16 bit		1 / 32 000, 15 bit	
Galvanic isolation						Input isolation >1000 V		Input isolation >1000 V	
Scaling of display	By front keys		By front keys		By front keys	By front keys		By front keys	
Special functions	Square root		Square root		Square root	6 points XY linearization		6 points XY linearization	
Alarms: 2 relays, 240 VAC, 150 mA		Low or high		Low or high	-		Low or high	Low or high alarm 240 VAC, 3 A,	
Protection class	Front panel IP65		IP65		IP65	IP65		Front panel IP65	
Power supply or voltage drop	Max. voltage drop in current loop < 5 V For model 202 < 7.5 V		Max. voltage drop in current loop < 5 V For model 302 < 7.5 V		Max. voltage drop in current loop < 5 V	Power supply range 10..32 VDC (311) or 12.5..32 V (312)		Large range power supply 24..265 VAC/VDC	
Note	Low cost solution for current loop 4-20 mA. Easy installation without external power supply.		Low cost solution for current loop 4-20 mA. Easy installation without external power supply.		Low cost solution for current loop 4-20 mA. Easy installation without external power supply.	2 wire display can be also used without current output by connecting 13..24 VDC to output terminal.		Power supply 12 VDC for transmitter	Output: 4-20 mA max. 650 Ohm

1

Loop powered display 201 and 202



2 wire display 311 and 312 with galvanic isolated output 4-20 mA



Panel Meters

Displays

Large Displays

Transmitters

Converters

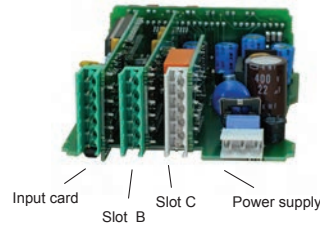
Wireless Transmitters

Software

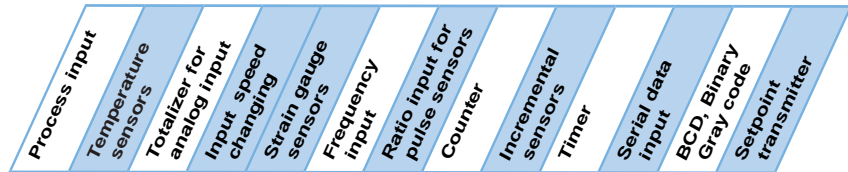
Sensors

Panel meter series 2000

- Over 200 combinations by changing input and output cards
- Sensor power supply 24 VDC, max 150 mA
- No calibration needed after changing cards



Input and output cards can be used with other display series as 2800, 575F, 910, 920, 1000F, 1100F and 1800F



Inputs		2012	2021	2026	2028	2041	2051	2251	2061	2064	2066	2071	2081	2022
Process input 0/4..20 mA, 0..5/10V		•	•	•	•									•
0..25, 55, 100, 1000, 2500 mV			•	•	•									
Potentiometer 100Ω..10 kΩ		•												
Potentiometer 100Ω..5 kΩ			•											
Thermocouples, J,K,L,T,N,R,S,C,D,B,G			•											
Pt100 sensor (3 or 4 wire)			•											
Pt1000 sensor (3 or 4 wire)			•											
Ni100 sensor (3 or 4 wire)			•											
Weighing sensors, strain gauge						•								
Frequency PNP/NPN, Namur, relay, pickup							•	•						
Counter, PNP/NPN, Namur, relay, pickup									•					
Binary and Gray code													•	
BCD inputs 3..5 digits													•	
Serial input RS232 and RS-485												•		
Incremental sensors										•				
Timer /clock											•			
24 VDC sensor supply, max. 150 mA		•	•	•	•	10 V	•	•	•	•	•	•	•	•
Input cards (slot A)	Type code													
Process inputs, mA/V	2012-IN	•												
Temperature sensors and process input	2021-MU		•											
Process inputs, mA/V	2022-SP													•
Totalizer/input signal speed, mA/V inputs	2026-TO			•	•									
Weighing sensors (strain gauge)	2041-SG					•								
Frequency input (pulse)	2051-PU						•	•						
Counter (pulse)	2061-CO								•					
Incremental sensors A/B lines	2064-IE									•				
Serial inputs RS232/485	2071-RS											•		
BCD, Gray and Binary inputs	2081-BCD												•	
Output (slot B and C)														
0/4..20 mA, 0..5/10V, galvanic isolation	2000-OUT	•	•			•	•	•						•
Serial input RS-485/232	2000-RS	•	•			•	•	•	•	•				•
Relay card, 2 relays	2000-REL2	•	•	•	•	•	•	•	•	•				•
Relay card, 3 relays	2000-REL3	•	•	•	•	•	•	•	•	•				•
4 relays: 2 relay cards to B and C	2 x REL2	•	•		•					•				
I/O card, 4 alarm cards, semiconductor	2000-I/O		•			•	•		•					
Special functions														
Display hold, external contact		•	•	•	•									
Display reset/tare, external contact	2000-I/O	▲		•	•				▲	▲	▲			
Start/stop by external contact	2000-I/O										•			
Min/max memory			•											
Display memory (one week)	2000-MEM			•					•					
Output control by front keys														•
Counter/totalizer				•					•					
Two mA/V outputs at same time			•											•
Special inputs >10V (e.g. input 0-48 V)		•												
2 input channels		•						•						
Basic meter without input card														
Power supply 85..260 VAC	2000-230VAC													
Power supply 12..30 VDC (24 VDC or AC)	2000-24VAC													
Power supply 85..260 VAC	2000GR-230VAC													
Power supply 12..30VDC (24 VDC or AC)	2000GR-230VAC													

▲ Included in input card

Panel Meters

Displays

Large Displays

Transmitters

Converters

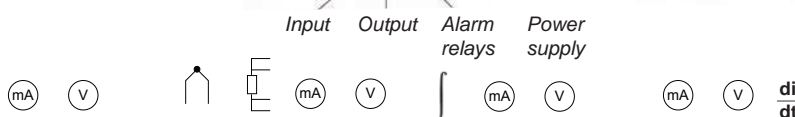
Wireless Transmitters

Software

Sensors

Displays include color coded terminals: gray terminals for power supply 230 VAC and alarm relays. Green terminals for other voltages.

See also loop powered displays on the page 5



	Process inputs mA/V	2 channel panelmeter	Temperature sensors	Totalizer mA/V inputs	Input signal changing speed
Model	2012	2212	2021	2026	2028
Manufacturer	Nokeval	Nokeval	Nokeval	Nokeval	Nokeval
Case	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD
Digit size	14.5 mm	14.5 mm	14.5 mm	14.5 mm	14.5 mm
Number of digits	6 digits	4 digits	6 digits	6 digits	6 digits
Display color	Red or green LED	Red LED	Red or green LED	Red or green LED	Red or green LED
Inputs	0/4..20 mA 0..5/10 V Potentiometer 100Ω ..10 kΩ Special input 0..100 VDC on request	2 input channels 0/4..20 mA 0..5/10 V Potentiometer 100Ω ..10 kΩ	±0..25/2500mV ±0..5/10V, 0/4..20mA Pt100, Pt1000, Ni100 Thermocouple K, J, L, T, E, B, N, R, S, C, D, G, Chr-C Resistance 100Ω ..5 kΩ	0/4..20 mA 0..5/10 V	0/4..20 mA 0..5/10 V
Accuracy	0.05% of span	± 0.05% +1 dig.	0.02..0.05% of span		
Resolution	1 / 64 000, 16 bit	1 / 64 000, 16 bit	1 / 64 000, 16 bit	1 / 64 000, 16 bit	1 / 64 000, 16 bit
Settings	By front keys	By front keys	By front keys	By front keys	By front keys
Special functions	Tare or hold by external contact		Min. and max. memory, square root (mA/V-input)		Min. and max. memory, square root (mA/V-input)
Alarms (optional)	2..4 relays, 240 VAC, 2A	2..3 relays	2..4 relays, 240 VAC, 2A	2 relays, 240 VAC, 2A	2..4 relays, 240 VAC, 2A
Output (optional)	2 x 4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V		
Serial input (optional)	RS-232 and RS-485, Nokeval SCL protocol	RS-485 or RS232 Nokeval SCL protocol	RS-232 and RS-485, Nokeval SCL protocol		
Sensor supply	24 VDC, max. 150 mA	-	24 VDC, max. 150 mA	24 VDC, max. 150 mA	24 VDC, max. 150 mA
Protection class	Front panel IP65	Front plate IP65	Front panel IP65	Front panel IP65	Front panel IP65
Power supply	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC
Note	The model 2012 replaces the model 2011. Two 4-20 mA/0-10V outputs are available	First digit displays channel number Inputs are not isolated	Option cards: Output, serial and alarm cards can be installed into slot B or slot C.	Totalizer or rate value can be displayed, selection by front keys One week display memory without power supply.	Signal speed display is used e.g. in pressure chamber applications where pressure need to decreased at fix speed.
Included cards	2012-IN	2 x 2012-IN	2021-MU	2026-TO, 2000-MEM	2026-TO
Model	2012	2212	2021	2026	2028
Options:					
2 alarm relays (REL2)	x	x	x	x	x
3 alarm relays (REL3)	x	x	x	-	-
4 alarms (2 x REL2)	x	-	x	-	x
I/O-card (I/O)	-	-	x	x	x
Output, mA/V (OUT)	x	x	x	-	-
Serial output RS485/232	x	x	x	-	-
Power supply	12..32 VDC or 85..260 VAC Power supply needs to be mentioned in order				
Note	Two option cards can be installed at the same time				
Ordering code	Optional cards are added after basic type + power supply, e.g. 2021-OUT-REL2-230 VAC (leave out series type 2000, see page 6)				
Options	Option cards can also be installed afterwards. Mention the type of the series when ordering cards separately e.g. REL2 = 2000-REL2				

Data sheets and manuals from our web site www.nokeval.com

1

Panel Meters

Displays

Large Displays

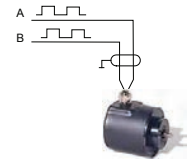
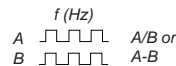
Transmitters

Converters

Wireless Transmitters

Software

Sensors



	Strain gauge sensors	Frequency input	Ratio/difference display	Counter for pulse input	Incremental sensors
Model	2041	2051	2251	2061	2064
Manufacturer	Nokeval	Nokeval	Nokeval	Nokeval	Nokeval
Dimensions	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD
Digit size	14.5 mm	14.5 mm	14.5 mm	14.5 mm	14.5 mm
Number of digits	6 digits	6 digits	6 digits	6 digits	6 digits
Display color	Red or green LED	Red or green LED	Red or green LED	Red or green LED	Red or green LED
Inputs	Strain gauge 4 x 350 Ω. 4 or 6 wires Input 25..50 mV	Namur, NPN/PNP, contact, pick-up Frequency range 0.0001..5000 Hz	Two channel display for two pulse sensors. Namur, NPN/PNP, contact, pick-up Frequency range 0.0001..5000 Hz	Namur, NPN/PNP, contact, pick-up Input frequency 0..5 kHz. Up/down function by external contact	Direction selection by A and B lines from sensors. Frequency range 0..25 kHz
Accuracy	0.05..0.1% of span	0.01 % of reading	0.01 % of reading	-	-
Resolution	1 / 64000, 16 bit	-	-	-	-
Settings	By front keys	By front keys	By front keys	By front keys	By front keys
Special functions		Pulse divider 1..64000	2 channels	Pulse output divider selectable 1..64000	
Alarms (optional)	2..3 relays, 240 VAC, 2A	2..4 relays, 240 VAC, 2A	2 relays, 240 VAC, 2A	2 relays, 240 VAC, 2A	2..3 relays, 240 VAC, 2A
Outputs (optional)	0/4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V	-	-
Serial signal (optional)	RS-232 and RS-485, Nokeval SCL protocol	RS-232 and RS-485, Nokeval SCL protocol	RS-232 and RS-485, Nokeval SCL protocol	RS-232 and RS-485, Nokeval SCL protocol	RS-232 and RS-485, Nokeval SCL protocol
Sensor supply	10 V, max. 150 mA	24 VDC, max. 150 mA	24 VDC, max. 150 mA	24 VDC, max. 150 mA	24 VDC, max. 150 mA
Protection class	Front panel IP65	Front panel IP65	Front panel IP65	Front panel IP65	Front panel IP65
Power supply	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC
Note	6 wire sensors connection adds measuring accuracy. Sensors can be connected in series by using serial connection unit 20SA4.	Measuring range starts from exceptional low frequency range, hours up to 5kHz.	Typical application is ratio display (%) for two flow meters. Can be also used as difference display for two flow meter	Can be used as batch controller (with alarms). Display scaling can be set for floating point value e.g. 1 pulse=15.2 digits	Moving direction is selected by lines A and B of sensors. Reset by external contact.
Included card	2041-SG	2051-PU	2 x 2051-PU	2061-CO	2064-IE
Model	2041	2051	2251	2061	2064
Options					
2 alarm relays (REL2)	x	x	x	x	x
3 alarm relays (REL3)	x	-	-	-	x
I/O-card (I/O)	x	x	-	x	-
Output mA/V (OUT)	x	x	x	-	-
Serial signal RS485/232	x	x	x	x	x
Power supply	12..32 VDC or 85..260 VAC Power supply needs to be mentioned in order				
Ordering code	Optional cards are added after basic type + power supply, e.g. 2021-OUT-REL2-230 VAC (leave out series type 2000, see page 6)				
Options	Option cards can also be installed afterwards. Mention the type of the series when ordering cards separately e.g. REL2 = 2000-REL2				

Data sheets and manuals from our web site www.nokeval.com

Panel Meters

Displays

Large Displays

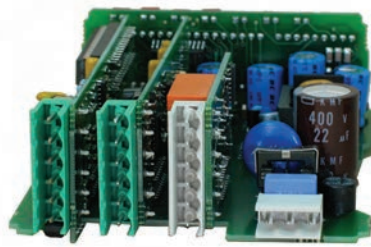
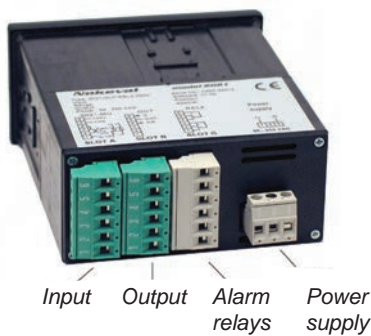
Transmitters


Converters

Wireless Transmitters

Software

Sensors

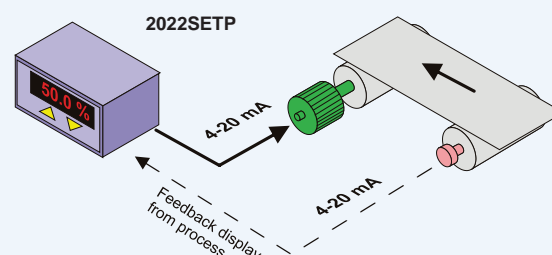


	Timer	Clock	Serial signal RS232/485	BCD, Binary and Gray code	Accessories
Model	2066	2067	2071	2081	
Manufacturer	Nokeval	Nokeval	Nokeval	Nokeval	 <p>Field enclosures are available for 1-3 panel meters</p> <p>Displays are installed on the aluminium plate with hinges. Clear plastic cover protects panel meters (IP66). Four glands for cables.</p> <p>Types: 2000IP65-1 2000IP65-2 2000IP65-3</p> <p>Separate cover for one panel meter</p> <p>412IP65 with hinges for one panel meter (200 and 2000 series).</p> <p>Dimensions 160 x 95 mm. Protection class IP65. Easy installation for all panels.</p>
Dimensions	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	
Digit size	14.5 mm	14.5 mm	14.5 mm	14.5 mm	
Number of digits	6 digits	6 digits	6 digits	6 digits	
Display color	Red or green LED	Red or green LED	Red or green LED	Red or green LED	
Inputs	Start, stop and pause by external contact. Time is displayed by using dots as 23.59.59 (h.min.s).	Time is displayed by using dots as 23.59.59 (h.min.s).	RS485, RS232, Nokeval SCL protocol	5 digits BCD code 5 digits Gray code 5 digits binary Logic level '1' 5...30 VDC	
Accuracy	30 ppm	30 ppm			
Resolution	1 second	1 second			
Settings	By front panel	By front panel	By front panel	By front panel	
Serial signal (optional)		RS232 and RS-485, Nokeval SCL protocol			
Sensor supply				24 VDC, max. 150 mA	
protection class	Front panel IP65	Front panel IP65	Front panel IP65	Front panel IP65	
Power supply	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	
Note	Time range 99.59.59 (h.min.s) Available also in resolution of 0.01s	Display range 23.59.59 (h.min.s) Hours, minute and seconds are separated in dots. Several remote displays are possible by using serial RS485 output	Front keys can be read by serial signal. Display can be set to a buffer mode without sending returning marks.	Display range -65535...+65535. Basic display includes 3 BCD inputs (3 x 4 lines). Option card adds 2 inputs (5 inputs).	
Included cards	2066	2067, 2000-MEM	2071-RS	2081-BCD, 2000-BCD	
Model	2066	2067	2071	2081	
Options					
2 alarms (REL2)	-	-	-	-	
BCD input, 2 digits (BCD)	-	-	-	x	
Serial output RS485	-	x	-	-	

Setpoint transmitter 2022SETP (541)

Output signal of setpoint transmitter can be controlled by arrow keys in the front panel.

The display can be selected to display a value of output (scaleable) or isolated feedback input from process.



Multi Channel Displays

Displays

Large Displays

Transmitters

Converters

Wireless Transmitters

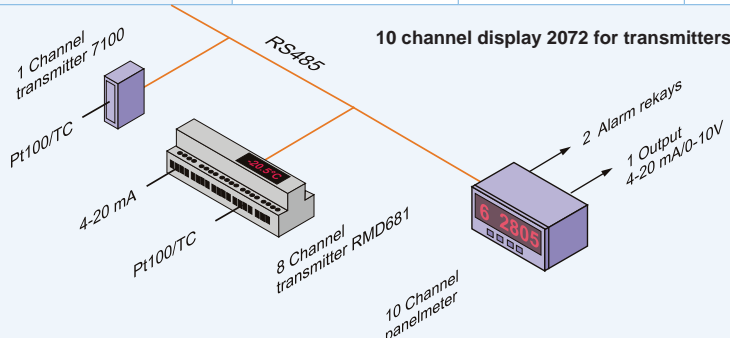
Software

Sensors

Special displays



	10 channel display	Tank indicator	Setpoint transmitter	Setpoint transmitter	8 channel display
	2072	2022TANK	2022SETP	541	538-8SC
Model	2072	2022TANK	2022SETP	541	538-8SC
Manufacturer	Nokeval	Nokeval	Nokeval	Nokeval	Nokeval
Case	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 48 x 115 mm WHD	96 x 96 x 175 mm WHD	96 x 96 x 175 mm WHD
Digit size	14.5 mm	14.5 mm	14.5 mm	14.5 mm	14.5 mm
Number of digits	4 digits	6 digits	6 digits	6 digits	4 digits
Display color	Red or green LED	Red LED	Red LED	Red LED	Red LED
Number of channels	9 channels	1 channel	1 channel	1 channel	8 channels
Inputs	10 display channels for devices with serial RS485 output	0/4..20 mA, 0..5/10V	Output is controlled by front arrow keys. Feedback input can be displayed, input 0/4..20 mA, 0..5/10V	Output is controlled by 15 turn potentiometer	20, 50, 500 1000 mV 0/4..20 mA, 0..5/10V Pt100, 3 wire, Thermocouples: K, J, L, T, E, N, S, R
Accuracy		±0.05% +digit	± 0.05% of span +1 digit	0.05 % of span	0.05 % of span
Resolution			1 / 64 000 (feedback)	1 / 64 000 (feedback)	1 / 32 000, 15 bit
Settings	By front keys	By front keys	By front keys	By front keys	By front keys
Alarms	2 relays, 240 VAC, 2A	2..3 relays	2 relays, 240 VAC, 2 A	2 relays, 240 VAC, 2 A	2 relays, 240 VAC, 2A
Extra alarms (optional)		-	-	-	10 reed-relays, max.60 V
Outputs (optional)	One 4-20 mA, 0-10V	0/4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V	8 x 0/4..20 mA, 0..5/10V
Serial signal (optional)		RS-485 or RS232 Nokeval SCL protocol	RS-485 or RS232 Nokeval SCL protocol	RS232 or RS-485 Nokeval SCL protocol	RS232 or RS-485 Nokeval SCL protocol
Sensor supply		-	-	-	24 VDC, max.160 mA
Protection class	Front panel IP65	Front plate IP65	Front plate IP65	IP65	IP54
Power supply	90..240 VAC or 24VDC	90..240 VAC or 24 VDC	90..240 VAC or 24 VDC	90..240 VAC or 24 VDC	230 VAC or 115 VAC
Note	The 2072 can read one or multichannel transmitters. Channel selection by arrow keys or automatic scanning.	10 point level and 32 point volume linearization tables Typical application: Round bottom tank.	Feedback display is not necessary to use. Display can be scaled in engineering units.	Display can be scaled in engineering units for output and input. Feedback display has no connection to output.	Display scans channels automatically or channels can be selected by arrow keys manually. Each channel accepts individual sensor type.
Cards included			2022-SETP, 2000-OUT	2022-SETP, 2000-OUT	
Model	2072	2022TANK	2022SETP	541	538-8SC
Options					
Alarm relays	x	x	x	x	10 relays 2 relays as standard
Outputs mA/V	x	-	As standard	As standard	8 outputs
Serial data RS485 / RS232		x	x	x	x



Field Displays

Displays

Large Displays

Transmitters

Converters

Wireless Transmitters

Software

Sensors

All input and output cards of panel meter series 2000 are available.

Only common types are shown on this page.



Digit size 20 mm.
Reading distance about 10 metres

2

	1-2 channels display		Temperature and process sensors	Strain gauge sensors	Frequency inputs	Counter for pulse input
Model	2800-2012	2800-2212	2800-2021	2800-2041	2800-2051	2800-2061
Manufacturer	Nokeval		Nokeval	Nokeval	Nokeval	Nokeval
Case	180 x 130 x 80 mm WHD		180 x 130 x 80 mm WHD	180 x 130 x 80 mm WHD	180 x 130 x 80 mm WHD	180 x 130 x 80 mm WHD
Digit size	20 mm		20 mm	20 mm	20 mm	20 mm
Number of digits	6 digits	4 digits	6 digits	6 digits	6 digits	6 digits
Display color	Red LED		Red LED	Red LED	Red LED	Red LED
Inputs	0/4..20 mA 0..5/10 V Potentiometer 100Ω ..10 kΩ		±0..25/2500mV ±0..5/10V, 0/4..20mA Pt100, Pt1000, Ni100 Thermocouples K, J, L, T, E, B, N, R, S, C, D, G, Chr-C Resistance 100Ω ..5 kΩ	Strain gauge sensors 4 x 350 Ω. 4- or 6 wire connections. Input range 25..50 mV	Namur, NPN/PNP, contact, pickup Frequency range 0.0001..5000 Hz	Namur, NPN/PNP, contact, pick-up Input frequency 0..5 kHz. Up/down function by external contact
Accuracy	0.05% of span		0.02..0.05% of span	0.05..0.1% of span	-	-
Resolution	1 / 64 000, 16 bit		1 / 64 000, 16 bit	1 / 64000, 16 bit	-	-
Settings	By front keys		By front keys	By front keys	By front keys	By front keys
Special functions	Tare or hold		Min. and max. memory. Square root (mA/V)	-	Pulse output divider selectable 64000	
Alarms (optional)	2 relays, 240 VAC, 2A		2..4 relays, 240 VAC, 2A	2..3 relays, 240 VAC, 2A	2..4 relays, 240 VAC, 2A	2 relays, 240 VAC, 2A
Output (optional)	-		0/4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V	-
Serial signal (optional)	-		RS232 and RS485, Nokeval SCL protocol	RS232 and RS485, Nokeval SCL protocol	RS232 and RS485, Nokeval SCL protocol	RS232 and RS485, Nokeval SCL protocol
Sensor supply	24 VDC, max. 150 mA		24 VDC, max. 150 mA	10 V, max. 150 mA	24 VDC, max. 150 mA	24 VDC, max. 150 mA
Protection class	IP65		IP65	IP65	IP65	IP65
Power supply	85..240 VAC, 12..32 VDC / 24 VAC		85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC	85..240 VAC, 12..32 VDC / 24 VAC
Note	Basic display for process inputs (mA/V). 2 channel model 2800-2212 (4 digits) is available for process inputs (mA/V). First digit displays channel number on 2212		Option cards: Output, serial and alarm cards can be installed into slot B or slot C.	6 wire sensors connection adds measuring accuracy. Sensors can be connected in series by using serial connection unit 20SA4 for sensors, see page 18.	Measuring range starts from exceptionally low. Frequency range from hours up to 5kHz.	Can be used as batch controller (with alarms). Display scaling can be set for floating point value e.g. 1 pulse=15.2 digits
Model	2800-2012	2800-2212	2800-2021	2800-2041	2800-2051	2800-2061
Options:						
2 alarm relays (REL2)		x	x	x	x	x
3 alarm relays (REL3)	x	x	x	-	-	-
4 alarms* (2 x REL2)	2 x	2 x	2 x	-	-	-
I/O-card (I/O)	-	-	x	x	x	x
Output mA/V (OUT)	x	x	x	x	x	x
Serial RS485/232 (RS)	x	x	x	x	x	x
2 channels	-	X	-	-	-	-
Power supply	12..32 VDC or 90..240 VAC Power supply needs to be mentioned in order					
Remarks	Only two option cards are available at the same time					
Ordering code	Optional cards are added after basic type + power supply, e.g. 2800-2021-OUT-REL2-230 VAC (leave out the series type 2000)					
Ordering options	Option cards can also be installed afterwards. Mention the type of the series when ordering cards separately e.g. REL2 = 2000-REL2					

All inputs and outputs of panel meter series 2000 are available, see page 6

Large Field Displays

Displays

Large Displays

Transmitters

Converters

Wireless Transmitters

Software

Sensors

All input and output cards of panel meter series 2000 are available. Only common types are shown on this page.



2

	Process input mA/V	Frequency inputs	Counter for pulse sensors	Serial signal	BCD, binary and Gray code
Model	-2012 (input card)	-2051 (input card)	-2061 (input card)	-2071 input card)	-2081 (input card)
Manufacturer	Nokeval	Nokeval	Nokeval	Nokeval	Nokeval
575F5-(input)	Size 57 mm (digit size)	57 mm	57 mm	57 mm	57 mm
	Digits 5 digits	5 digits	5 digits	5 digits	6 digits
	Case 280 x 140 x 100mm WHD	280 x 140 x 100mm WHD	280 x 140 x 100mm WHD	280 x 140 x 100mm WHD	280 x 140 x 100mm WHD
FD100A4-(X)	Size 100 mm	100 mm	100 mm	100 mm	100 mm
	Digits 4 digits	4 digits	4 digits	4 digits	4 digits
	Case 460 x190 x 110mm WHD	460 x190 x 110mm WHD	460 x190 x 110mm WHD	460 x190 x 110mm WHD	460 x190 x 110mm WHD
FD100A6-(X)	Size 100 mm	100 mm	100 mm	100 mm	100 mm
	Digits 6 digits	6 digits	6 digits	6 digits	6 digits
	Case 713 x262 x 119mm WHD	713 x262 x 119mm WHD	713 x262 x 119mm WHD	713 x262 x 119mm WHD	713 x262 x 119mm WHD
FD200A4-(X)	Size 200 mm	200 mm	200mm	200mm	200 mm
	Digits 4 digits	4 digits	4 digits	4 digits	4 digits
	Case 1030 x 375 x 210mm	1030 x 375 x 210 mm	1030 x 375 x 210 mm	1030 x 375 x 210 mm	1030 x 375 x 210 mm
FD200A6-(X)	Size 200 mm	200 mm	200mm	200mm	200 mm
	Digits 6 digits	6 digits	6 digits	6 digits	6 digits
	Case 1013 x 323 x 119 mm	1013 x 323 x 119 mm	1013 x 323 x 119 mm	1013 x 323 x 119 mm	1013 x 323 x 119 mm
Display color	Red LED	Red LED	Red LED	Red LED	Red LED
Inputs	0/4..20 mA 0..5/10 V Potentiometer 100 Ω ..10 kΩ	Namur, NPN/PNP, contact, pickup Frequency display 0.0001..5000 Hz	Namur, NPN/PNP, contact, pickup Frequency range 0.0001..5000 Hz.	RS232 and RS-485, Nokeval SCL protocol	5 digits BCD code 5 digits Gray code 5 digits Binary code Logic level '1' 5...30 VDC
Accuracy	0.05% of span	0.01% of span	-	-	-
Settings	By keys inside of case	By keys inside of case	By keys inside of case	By keys inside of case	By keys inside of case
Special functions	Tare or hold	Pulse divider	Pulse divider	-	-
Alarms (optional)	2 relays, 240 VAC, 2A	2..4 relays, 240 VAC, 2A	2 relays, 240 VAC, 2A	-	-
Output (optional)	-	0/4..20 mA, 0..5/10V	-	-	-
Serial signal (optional)	-	RS232 and RS-485, Nokeval SCL protocol	RS232 and RS-485, Nokeval SCL protocol	-	-
Sensor supply	24 VDC, max.50 mA	24 VDC, max.50 mA	24 VDC, max.50 mA	24 VDC, max.50 mA	24 VDC, max.50 mA
Protection class	IP65	IP65	IP65	IP65	IP65
Power supply	85..240 VAC, 24 VDC / 24 VAC	85..240 VAC, 24 VDC / 24 VAC	85..240 VAC, 24 VDC / 24 VAC	85..240 VAC, 24 VDC / 24 VAC	85..240 VAC, 24 VDC / 24 VAC
Power	10 ..20 W	10 ..20 W	15 ..20 W	15 ..20 W	15 ..20 W
Note	Basic display for process inputs.	Measuring range starts from exceptional low frequency range, hours up to 5 kHz.	Can be used as batch controller (with alarms). Display scaling can be set for floating point value e.g. 1 pulse=15.2	Front keys can be read by serial signal. Display can be set to a buffer mode without sending returning marks.	Display range -65535...+65535. 2000-BCD cards included.
Input card	-2012	-2051	-2061	-2071	-2081
575F5-, 5 digits, 57 mm	x	x	x	x	x
Digit size 100 mm:					
FD100A4, 4 digits	x	x	x	x	x
FD100A6-, 6 digits	x	x	x	x	x
Digit size 200 mm:					
FD200A4, 4 digits	x	x	x	x	x
FD200A6, 6 digits	x	x	x	x	x
Ordering information	Optional cards are added after basic type e.g. FD100A4-230VAC-2012-(option cards). All option cards of 2000 series are available.				

Large Panel Meters

Displays

Large Displays

Transmitters

Converters

Wireless Transmitters

Software

Sensors



Model 910-(x)

Miniature display on the backside of the display helps scaling.



	Process input mA/V		Frequency input		Counter for pulse sensors		Serial data input		BCD, binary and Gray input		
Input card	-2012 (input card)		-2051 (input card)		-2061 (input card)		-2071 (input card)		-2081 (input card)		
Manufacturer	Nokeval		Nokeval		Nokeval		Nokeval		Nokeval		
Model	910	920	910	920	910	920	910	920	910	920	
Digit size	57 mm	100 mm	57 mm	100 mm	57 mm	100 mm	57 mm	100 mm	57 mm	100 mm	
Number of digits	5	4	5	4	5	4	5	4	5	4	
Case	910	303 x 111 x 80 mm WHD		303 x 111 x 80 mm WHD		303 x 111 x 80 mm WHD		303 x 111 x 80 mm WHD		303 x 111 x 80 mm WHD	
	920	417 x 161 x 80 mm WHD		417 x 161 x 80 mm WHD		417 x 161 x 80 mm WHD		417 x 161 x 80 mm WHD		417 x 161 x 80 mm WHD	
Display color	Red LED		Red LED		Red LED		Red LED		Red LED		
Inputs	0/4..20 mA 0..5/10 V Potentiometer 100Ω ..10 kΩ		Namur, NPN/PNP, contact, pickup Frequency range 0.0001..5000 Hz		Namur, NPN/PNP, contact, pickup Frequency range 0.0001..5000 Hz. External contact for counting direction		RS232 and RS-485, Nokeval SCL protocol		5 digits BCD code 5 digits Gray code 5 digits binary code Logic level '1' 5...30 VDC		
Accuracy	0.05% of span		0.05% of span		0.01% of span						
Resolution	1 / 32 000 (15 bit)										
Settings	By backside keys		By backside keys		By backside keys		By backside keys		By backside keys		
Special functions	tare or hold		Pulse divider for output		Pulse divider for output		-		-		
Alarms (optional)	2 relays, 240 VAC, 2A		2..4 relays, 240 VAC, 2A		2 relays, 240 VAC, 2A		-		-		
Outputs (optional)	-		0/4..20 mA, 0..5/10V		-		-		-		
Serial signal (optional)	-		RS232 and RS-485, Nokeval SCL protocol		RS232 and RS-485, Nokeval SCL protocol		-		-		
Sensor supply	24 VDC, max.50 mA		24 VDC, max.50 mA		24 VDC, max.50 mA		24 VDC, max.50 mA		24 VDC, max.50 mA		
Front plate	IP54		IP54		IP54		IP54		IP54		
Power supply	24 VDC		24 VDC		24 VDC		24 VDC		24 VDC		
Power demand	10..20 W		10..20 W		15..20 W		15..20 W		15..20 W		
Note	Basic display for process inputs (mA/V).		Measuring range starts exceptionally low. Frequency range from hours up to 5kHz.		Can be used as batch controller (with alarms). Display scaling can be set for floating point value e.g. 1 pulse=15.2		Front keys can be read by serial signal. Display can be set to a buffer mode without sending returning marks.		Display range -65535...+65535. 2000-BCD cards included. 2 inputs. 5 digits need two option cards		
Model	-2012		-2051		-2061		-2071		-2081		
910F5-(input card)	x		x		x		x		x		
920F4-(input card)	x		x		x		x		x		
Ordering code	Optional cards are added after basic type + power supply, e.g. 910-2011-REL2-230 VAC										
	All input and option cards of 200 series are available, see combination table of 2000 series on the page 6.										

2

**All input and output cards of panel meter series 2000 are available.
Only common types are shown on this page.**