

1 LOOP POWERED

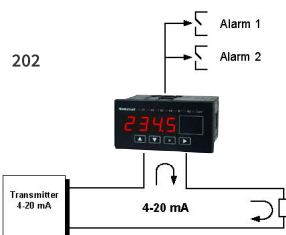


Depth of the case is only 70 mm

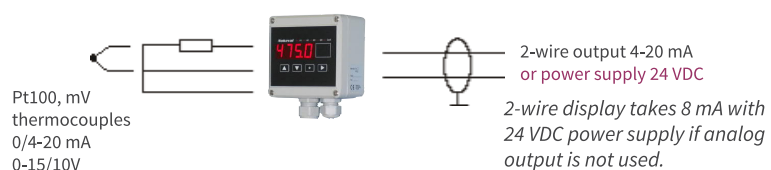


Loop powered displays do not need external power supply

	Loop Powered Panel meter		Loop Powered Field display		Loop Powered Field display	2-wire Field Display
MODEL	201	202	301	302	305	311
Manufacturer	Nokeval		Nokeval		Nokeval	Nokeval
Dimensions	96 x 48 x 70 mm WHD		100 x 100 x 57 mm WHD		80 x 82 x 57 mm WHD	100 x 100 x 57 mm WHD
Digit size	14.5 mm		14.5 mm		14.5 mm	14.5 mm
Number of digits	4 digits		4 digits		4 digits	4 digits
Display color	Red LED		Red LED		Red LED	Red LED
Inputs	4-20 mA (Loop powered)		4-20 mA (Loop powered)		4-20 mA (Loop powered)	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
Accuracy	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
Galvanic isolation						Input isolation >1000 V
Settings	By front keys		By front keys		By front keys	By front keys
Special functions	Square root		Square root		Square root	6 points XY linearization
Alarms: 2 relays, 240 VAC, 150 mA		Low or high		Low or high	-	
Protection class	Front panel IP65		IP65		IP65	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 from output loop
Note	Low cost solution for current loop 4-20 mA.		Low cost solution for current loop 4-20 mA.		Low cost solution for current loop 4-20 mA.	



311 WITH GALVANIC ISOLATED OUTPUT 4-20 MA





PANEL METERS 1



PME600/610



PM10 / PM20



NEW

Low cost series		
MODEL	PME600	PME610
Manufacturer	Nokeval	
Dimensions	96 x 48 x 70 mm WHD	
Digit size	14.5 mm	
Number of digits	4 digits	
Display color	Red LED	
Inputs	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	
Resolution	24 bit	
Settings	By front keys	
Special functions		
Alarms (optional)	Low or high alarm as standard, relays 240 VAC, 3A	
Output (optional)	4-20 mA, max 650 Ohm	
Serial output (optional)		
Sensor supply		
Protection class	Front panel IP65	
Power supply	Large range power supply 24...265 VAC/VDC	
Note	Power supply 12 VDC for transmitter	Output: 4-20 mA max. 650 Ohm

Smart Meter -series		
MODEL	PM10	PM20
Manufacturer	Nokeval	Nokeval
Dimensions	96 x 48 x 115 mm WHD	96 x 96 x 115 mm WHD
Digit size	14.5 mm	14.5 mm
Number of digits	6 digits	18 digits
Display color	Multicolor LED, Red/Yellow/Green	Multicolor LED, Red/Yellow/Green
Number of in/out	1-8	2-18
Inputs	mA, mV, Ohm, Pt100, Pt1000, Thermocouples, V More coming up...	mA, mV, Ohm, Pt100, Pt1000, Thermocouples, V More coming up...
Settings	By front keys or MekuWin (PC)	By front keys or MekuWin (PC)
Serial signal	RS485	RS485
Protection class	Front panel IP65	Front panel IP65
Power supply	24 VDC: 21...27 VDC	24 VDC: 21...27 VDC
Note	Freely definable combinations of inputs and outputs. Configuration by MekuWin through MicroUSB connection.	Freely definable combinations of inputs and outputs. Configuration by MekuWin through MicroUSB connection.

ITEM			
PM10A	Case + Display		
POW24SA	Power with Serial Bus		
PM20A	Case + Display		
POW24SA	Power with Serial Bus		
UNI2A	Universal Input x2		
OUT2A	Process Output x2		
REL2A	Relay Output x2		
COMBINATION EXAMPLES		INPUT	OUTPUT RELAY
PM10A - UNI2A - POW24SA		2	0 0
PM10A - UNI2A - REL2A - POW24SA		2	0 2
PM10A - UNI2A - UNI2A - UNI2A - UNI2A - POW24SA		8	0 0
PM10A - UNI2A - UNI2A - OUT2A - OUT2A - POW24SA		4	4 0
PM10A - UNI2A - UNI2A - REL2A - REL2A - POW24SA		4	0 4
PM10A - UNI2A - OUT2A - REL2A - POW24SA		2	2 2
PM10A - POW24SA		0	0 0
PM10A - OUT2A - POW24SA		0	2 0
PM20A - 4x UNI2A - 4x OUT2A - 2x REL2A - POW24SA		8	8 2

1 2000-SERIES



	2000-series Panel meters	2000-series Field Display	2000-series Field Displ. 57 mm	2000-series Field Displ. 100 mm	2000-series Field Displ. 200 mm
MODEL	2000	2800	575F5	FD100	FD200
Manufacturer	Nokeval	Nokeval	Nokeval	Nokeval	Nokeval
Dimensions	96 x 48 x 115 mm WHD	180x 130 x 80 mm WHD	310 x 138 x 96 mm WHD	477 x 191 x 100 mm WHD 659 x 191 x 100 mm	713 x 260 x 120 mm WHD 1013 x 260 x 120 mm
Digit size	14.5 mm	20 mm	57 mm	100 mm	200 mm
Number of digits	6 digits	6 digits	5 digits	4 / 6 digits	4 / 6 digits
Display color	Red LED	Red LED	Red LED	Red LED	Red LED
Inputs	2000-series inputs	2000-series inputs	2000-series inputs	2000-series inputs	2000-series inputs
Settings	By front keys	By front keys	By keys inside of case	By keys inside of case	By keys inside of case
Alarms (optional)	2..4 relays, 240 VAC, 2A	2..4 relays, 240 VAC, 2A	2..4 relays, 240 VAC, 2A	2..4 relays, 240 VAC, 2A	2..4 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	0/4..20 mA, 0..5/10V	0/4..20 mA, 0..5/10V
Serial signal (optional)	RS232 and RS485, Nokeval SCL	RS232 and RS485, Nokeval SCL	RS232 and RS485, Nokeval SCL	RS232 and RS485, Nokeval SCL	RS232 and RS485, Nokeval SCL
Sensor supply	24 V (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	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
Note	Includes 2000-series input card	Includes 2000-series input card	Includes 2000-series input card	Includes 2000-series input card	Includes 2000-series input card

OPTIONAL:

2 alarm relays (REL2)

3 alarm relays (REL3)

I/O-card (I/O)

Output mA/V (OUT)

Serial signal RS485/232

The option cards can also be installed afterwards.

SPECIALS:

2 x Process Input 2212-

2 x Frequency Input 2251-

2 x BCD Input 2081-

ORDER CODE:

	MODEL	INPUT	(OUTPUT)	(OUTPUT)	SUPPLY VOLTAGE
f.ex.	2800-	2012-	OUT-	REL2-	24 VDC

2000-SERIES 1

INPUT AND OUTPUT CARDS FOR 2000-SERIES DISPLAYS

- 2000
- 2800
- 575
- FD100/200

Process input	Temperature sensors	Totalizer for analog input	Input speed changing	Strain gauge sensors	Frequency input	Ratio input for pulse sensors	Counter	Incremental sensors	Timer	Serial data input	BCD, Binary Gray code	Setpoint transmitter
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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		•						•						

2000-SERIES INPUT CARD SPECIFICATIONS ON NEXT PAGE >>

1 2000-SERIES



	Process inputs mA / V	2-channel panel meter	Temperature sensors	Totalizer	Strain gauge sensors	Frequency input	Ratio/diff. display	Counter	Incremental sensors
MODEL	2012	2212	2021	2026	2041	2051	2251	2061	2064
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	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 fre- quency 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% of span	± 0.05% +1 dig.	0.02..0.05% of span		0.05..0.1% of span	0.01 % of reading	0.01 % of reading	-	-
Resolution	1 / 64 000, 16 bit	1 / 64 000, 16 bit	1 / 64 000, 16 bit	1 / 64 000, 16 bit	1 / 64000, 16 bit	-	-	-	-
Special functions	Tare or hold by external contact		Min. and max. memory, square root (mA/V- input)	Memory		Pulse divider 1..64000	2 channels	Pulse output divider selectable 1..64000	
Sensor supply	24 VDC, max. 150 mA	-	24 VDC, max. 150 mA	24 VDC, max. 150 mA	24 V (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
Note	Two 4-20 mA/0-10V outputs are available	First digit displays channel. Inputs are not isolated	Option cards: Output, serial and alarm cards can be installed into slot B or slot C.	Totalizer or rate value	6 wire sensors connection adds measuring accuracy.	Measuring range starts from low, 5kHz.	Typical ap- plication is ratio display (%) for two flow meters.	Can be used as batch con- troller (with alarms).	Moving direc- tion is selected by lines A and B of sensors.

	Timer	Clock	Serial RS232/485	10-channel master display	BCD, Binary and Gray code	Tank indicator	Setpoint transmitter
MODEL	2066	2067	2071	2072	2081	2022TANK	2022SETP
Inputs	Start, stop and pause by external contact. Time is displayed by using dots as 23.59.59	Time is displayed by using dots as 23.59.59 (h.min.s).	RS485, RS232, Nokeval SCL protocol and Modbus RTU (slave)	10 display chan- nels for devices with serial RS485 output. Acts as a Nokeval SCL master.	5 digits BCD code 5 digits Gray code 5 digits binary Logic level '1' 5...30 VDC	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
Accuracy	30 ppm	30 ppm				±0.05% +digit	± 0.05% of span +1 digit
Resolution	1 second	1 second					1 / 64 000 (feedback)
Special functions					Display range -65535... +65535		2 channels
Sensor supply					24 VDC, max. 150 mA	24 VDC, max. 150 mA	24 VDC, max. 150 mA
Note	Time range 99.59.59 (h.min.s)	Digits separated by dots. Memory.	Front keys can be read by serial signal.	The 2072 can read one or multichannel transmitters.	Basic display includes 3 BCD inputs (3 x 4 lines).	10 point level and 32 point volume linearization tables	Display can be scaled in engineering units.