



Digital Indicator and Controller for Panel Mounting



measuring
•
monitoring
•
analysing

DAG-S../DAG-M..



Model DAG-M1...
48 x 24 mm



Model DAG-M3...
96 x 24 mm



Model DAG-M4...
96 x 48 mm



Model DAG-S4...
96 x 48 mm

- 5-digit LED (red, green, orange, blue or tricolor)
- Input: temperature, current, voltage, frequency
- 1 (2) analogue output
- 2(4) contacts, min./max. memory
- RS232 or RS485 interface
- 30 additional adjustable setpoints, zero-key for Hold, Tara, zero-point tranquilizing
- Volume measuring (totalisator)



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Description

Digital indicators and controllers for measurement of temperature, current and voltage. The measuring input is set at the factory. The dimension symbols can be adapted with interchangeable plates.

The Parameters

- required display value and offset
- Decimal position, display time, sample rate
- type, full scale and offset of analogue output
- Switching point, hysteresis, standby-/operating current, delay can be programmed via keypad in 3 levels by customer.

Technical Details

Display: 5-digit, 7-segment, 14 (10) mm high optional red, green, blue, orange, or 3-color (red/green/orange) LED horizontal bar (up/down) for Overflow/Underflow
 Display time: 0.1..10.0 seconds

Housing: Polycarbonate, black, gasket EPDM

Mounting: pluggable screw elements up to wall thickness 3 mm

Protection type: IP 65 (front)
 IP 00 (back)

Elect. Connection: Plug terminals cable cross-section up to 2.5 mm²

Max. temperature: 0...+50°C operating, -20...+80°C storage

Weathering resistance: relative humidity 0-85 % annual mean, no condensation

Output: Pulse output: max. 10 kHz (only for frequency input)
 Analogue output: 0- 10 V_{DC}, 0(4)-20 mA switchable

Contacts: optical display flashing relay (Changeover contact)
 250 V_{AC}/5 A, 30 V_{DC} / 5 A
 PhotoMOS:
 N/O contact 30V_{DC/AC}; 0.4 A

Sensor supply: 10 V_{DC}/50 mA (DAG-M3/DAG-M4) / 10 V_{DC}/20 mA (DAG-S4/DAG-M1)

Interface: RS 232, 9,600 Baud, no parity, 8 DataBit, 1 Stopbit, max. cable length 3 m
 RS 485, 9,600 Baud, no parity, 8 DataBit, 1 Stopbit, max. cable length 1000 m.

Supply:
 DAG-M3../DAG-M4...
 100-240 V_{AC} 50/60 Hz ± 10%
 100-240 V_{DC} ± 10%
 (max. 10 VA (DAG-M3...)/max. 15 VA (DAG-M4...))
 10-40 V_{DC} galvanic separated,
 18-30 V_{AC} 50/60 Hz (max.10 VA (DAG-M3...)/max. 15 VA (DAG-M4...))

DAG-S4... 230 V_{AC} ± 10% (max. 20 VA), 115 V_{AC} 10-30 V_{DC}, galv. separated (max. 8 VA)

DAG-M1... 100-240 V_{AC} 50/60 Hz, ±10%, 100-240 V_{DC} ±10% (max. 5 VA) 24 V_{DC}, galv. separated (max. 4 VA)

Memory: EEPROM, data retention ≥100 years by 25 °C

Measuring input

Measuring input (direct current/direct voltage)

Measuring range: 0(4) -20 mA / 0-10 V_{DC}
 Measuring span: -22 ... 24 mA / -12 ... 12V
 Input resistance: Ri at ~100 Ω (at 0(4) -20 mA)
 Ri at ~200 kΩ (at 0-10 V_{DC})

Measuring error: 0.1% of measuring range ± 1 Digit
 Temperature drift: 100 ppm/K
 Measuring time: 0.1..10.0 seconds
 Measuring principle: U/F-conversion
 Resolution: approx. 18 Bit at 1s measuring time

Measuring input (Pt100)

Measuring range: -200.0...+850.0 °C
 -328.0... 1562.0 °F

Measuring error: 0.1 % of measuring range ± 1 Digit
 Temperature drift: 100 ppm/K
 Measuring time: 0.1 ... 10.0 seconds
 Measuring principle: U/F-conversion
 Resolution: 0,1 °C or 0,1 °F

Measuring input (Thermocouple)

Measuring range: Type L: -200...+900 °C
 Type J: -210...+1 200 °C
 Type K: -270...+1 372 °C
 Type B: +80...+1 820 °C
 Type S: -50...+1 768 °C
 Type N: -270...+1 300 °C
 Type E: -270...+1 000 °C
 Type T: -270...+400 °C
 Type R: -50...+1 768 °C

Measuring error: 2 K ± 1 Digit
 Temperature drift: 100 ppm/K
 Measuring time: 0.1 ... 10.0 seconds
 Measuring principle: U/F-conversion
 Resolution: 0.1 °C or 0.1 °F
 Characteristic error: < ± 1 K
 Cold junction: Thermistor

Measuring input (Frequency)

Signal: pulse input, TTL, Namur, 3-wire initiator PNP/NPN

Input resistance: Ri at 24 V/ 4 kΩ
 high/low level >15V / <4 V
 high/low TTL-level: > 4.6V / <1.9 V

Input Frequency: 0.01 Hz selectable up to 999.99 kHz
 Measuring error: 0.05 % of measuring range



DAG-S4../DAG-M4.., 96 x 48 mm



DAG-M3, 96 x 24 mm



DAG-M1, 48 x 24 mm



Standard version with min./max. memory, 30 additional adjustable setpoints, zero-key to activate Tara, Hold, zero-point tranquilizing, volume measurement (totalisator)

Order Details DAG-S4 96 x 48 (Example: DAG-S45 3 0 0 2 R)

Display 14 mm	Input	Model	Supply	Output	Sensor supply ¹⁾	Contacts	Display
5-digit	Pt100/3/4-wire (-200.0...+850.0 °C)	DAG-S45..	3 = 10-30 V _{DC} galvanic separated	0 = without 4 = 1 x 0(4) - 20 mA (not with sensor supply), 0-10 V _{DC}	0 = without V = 10 V _{DC} /20 mA W ²⁾ = 24 V _{DC} /50 mA	0 = without 2 = 2 relay	R = red B = blue O = orange G = green T ⁴⁾ = Tricolor (red/green/orange)
	Thermocouples (L, J, K, B, S, N, E, T, R)	DAG-S4T..					
	Frequency ²⁾ (0.01 Hz...999.99 kHz)	DAG-S4F..	2 = 24 V _{AC} 4 = 115 V _{AC}				
	0(4) - 20 mA, 0 - 10 V _{DC}	DAG-S4V..	0 = 230 V _{AC}				
5-digit	Pt100/3/4-wire (-200.0...+850.0 °C)	DAG-M45..	7 = 10-40 V _{DC} galvanic separated, 18-30 V _{AC}	0 = without 4 = 1 x 0(4) - 20 mA, 0-10 V _{DC}	0 = without V = 10 V _{DC} /50 mA W ²⁾ = 24 V _{DC} /50 mA	0 = without 2 = 2 relay 4 = 4 relay 8 = 8 Photo-Mos ³⁾	R = red B = blue O = orange G = green T = Tricolor (red/green/orange)
	Thermocouples (L, J, K, B, S, N, E, T, R)	DAG-M4T..					
	Frequency ²⁾ (0.01 Hz...999.99 kHz)	DAG-M4F..	8 = 100-240 V _{AC/DC} ±10%				
	0(4) - 20 mA, 0 - 10 V _{DC}	DAG-M4V..	7 = RS 232 8 = RS 485				

Order Details DAG-M3 96 x 24 (Example: DAG-M35 8 0 0 2 R)

Display 14 mm	Input	Model	Supply	Output	Sensor supply ¹⁾	Contacts	Display
5-digit	Pt100/3/4-wire (-200.0...+850.0 °C)	DAG-M35..	7 = 10-40 V _{DC} galvanic separated, 18-30 V _{AC}	0 = without 4 = 1 x 0(4) - 20 mA, 0-10 V _{DC}	0 = without V = 10 V _{DC} /50 mA W ²⁾ = 24 V _{DC} /50 mA	0 = without 2 = 2 relay	R = red B = blue O = orange G = green T = Tricolor (red/green/orange)
	Thermocouples (L, J, K, B, S, N, E, T, R)	DAG-M3T..					
	Frequency ²⁾ (0.01 Hz...999.99 kHz)	DAG-M3F..	8 = 100-240 V _{AC/DC} ±10%				
	0(4) - 20 mA, 0 - 10 V _{DC}	DAG-M3V..	7 = RS 232 8 = RS 485				

Order Details DAG-M1 48 x 24 (Example: DAG-M12 3 0 0 0 R)

Display 10 mm	Input	Model	Supply	Output	Sensor supply ¹⁾	Contacts	Display
5-digit	Pt100/2/4-wire (-200.0...+850.0 °C)	DAG-M12..	3 = 24 V _{DC} galvanic separated	0 = without 4 = 1 x 0(4) - 20 mA	0 = without V = 10 V _{DC} /20 mA W ²⁾ = 24 V _{DC} /50 mA	0 = without	R = red B = blue O = orange G = green
	Thermocouples (L, J, K, B, S, N, E, T, R)	DAG-M1T..					
	Frequency ²⁾ (0.01 Hz...999.99 kHz)	DAG-M1F..	0 = 100-240 V _{AC/DC} ±10%				
	0(4) - 20 mA, 0 - 10 V _{DC}	DAG-M1V..					

¹⁾ not available for input Pt 100, thermocouples or for output option '5'.

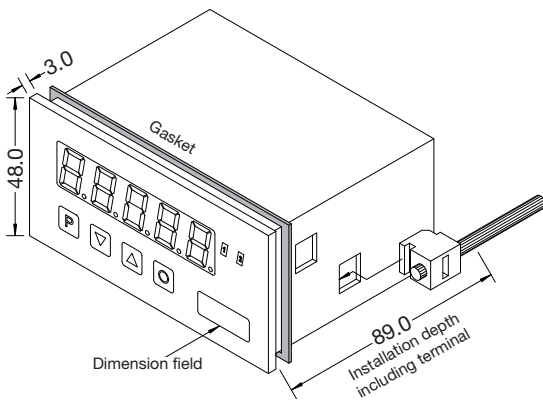
²⁾ Sensor supply 'W' is available in all units with frequency input and AC-supply and should be chosen with DAG-MxF.. and DAG-S4F..

³⁾ not available with output option '5'.

⁴⁾ Tricolor option for AC power supply is only available with output option, sensor supply or contacts.

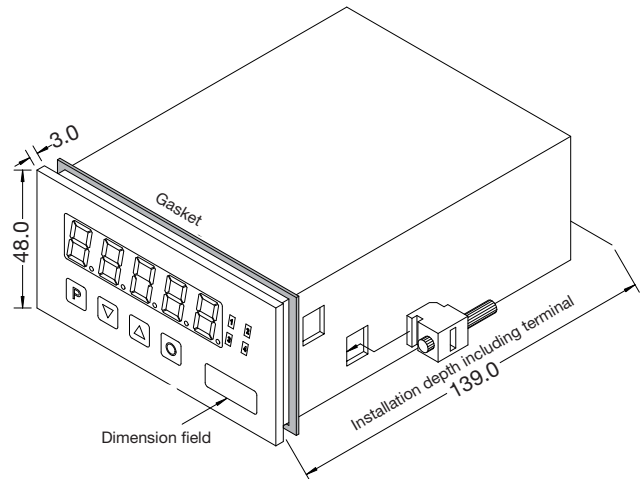
Dimensions

DAG-S4



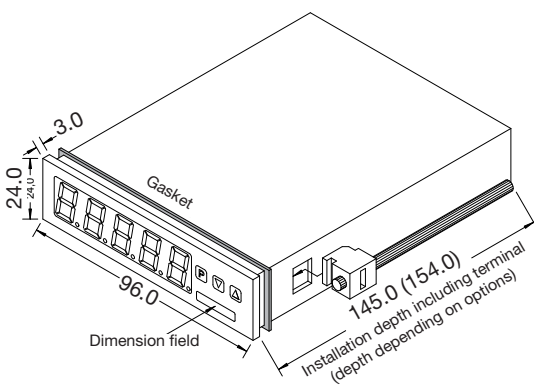
Cut-out: $92.0^{+0.8} \times 45.0^{+0.6}$ mm
Weight: approx. 200 g

DAG-M4



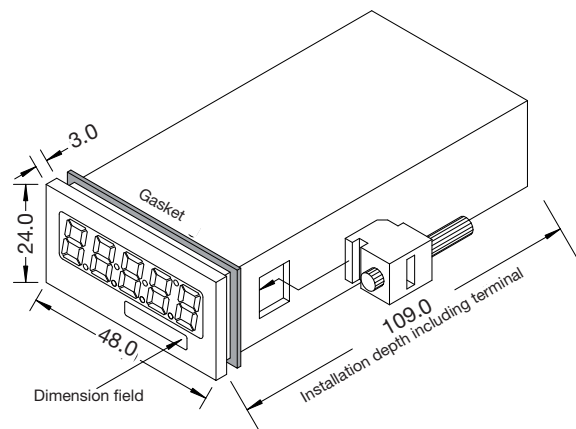
Cut-out: $92.0^{+0.8} \times 45.0^{+0.6}$ mm
Weight: approx. 350 g

DAG-M3



Cut-out: $92.0^{+0.8} \times 22.2^{+0.3}$ mm
Weight: approx. 250 g

DAG-M1



Cut-out: $45.0^{+0.6} \times 22.2^{+0.3}$ mm
Weight: approx. 150 g