



Digital indicators for panel mounting DAT9550, DAT8050 and "DAT700 SERIES"

The series is composed of devices dedicated to process and temperature measurement.

*The **DAT9550** is graphic display size 48 x 96 mm communicating on RS-485 with MODBUS RTU protocol.*

*The **DAT8050** is a programmable digital indicator for current loop size 48x96 mm with 4 digit LED visualization.*

*The **DAT700** series is composed of devices size 36x72 mm (**DAT701, DAT702, DAT733, DAT734, DAT735**).*

INDEX

- 86 • **DAT 9550**
Remote Graphic Display on RS-485 with Modbus RTU protocol
- **DAT 8050**
Loop powered 4 digit LED programmable digital indicator
- 87 • **DAT 701**
3.5 digit LED digital indicator
- **DAT 702**
3.5 digit LCD digital indicator
- 88 • **DAT 733**
3.5 digit LCD digital indicator
- **DAT 734**
3.5 digit LCD or LED display digital thermometer for Pt100
- 89 • **DAT 735**
3.5 digit LCD or LED display digital thermometer for Thermocouple

11



DAT9550
DAT8050 Digital indicators for
DAT700 SERIES panel mounting

DAT 9550



GENERAL DESCRIPTION

The device DAT 9550 is a graphic display designed for panel mounting and communicating with Modbus RTU protocol on RS-485 and RS-232 serial Slave port. Moreover on the device there is a RS-485 Master port by means of which it is possible to communicate with the eventual Modbus Slave devices connected. It can be used as Slave peripheral for the visualization of the data coming from the Intelligent Units of the DAT9000 series or from a PC, PLC or panel operator.

FEATURES

- Graphic display 132x32 pixels
- RS-485/RS-232 Modbus-RTU Slave Interface
- RS-485 Modbus-RTU Master Interface
- Remotely programmable
- Connection by removable screw-terminals (power

- supply & RS-485) and RJ45 (RS-232)
- Compact enclosure dimensions (DIN 48 x 96 mm)
- Galvanic Isolation on all the ways
- EMC compliance – CE mark
- Suitable for panel mounting in compliance with DIN-43700



Application areas



POWER SUPPLY

Power supply voltage	10 ÷ 30 Vdc
Current consumption	45 mA typ. @ 24Vdc (standby,max. brightness)
	80 mA max

ISOLATIONS

Power supply/ RS485	1500 Vac, 50 Hz, 1 min.
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TEMPERATURE & HUMIDITY

Operative temperature	-20°C .. +60°C
Storage temperature	-30°C .. +80°C
Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS

RS-232D	RJ-45
RS-485/Supply	Removable screw terminal blocks

HOUSING

Material	Noryl self-extinguishing plastic (UL94-V0)
Mounting	Panel mounting
Dim. (mm)	W x L x T : 96 x 48 x 74
Weight	about 160 g.

In compliance with IEE 802.3 EIA RS-485 and RS-232

Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Internal termination resistance	120 Ohm (optional)

Display

Graphic Area	132x32 pixel 13.2 * 48.1 mm
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(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

DIGITAL INDICATORS

LOOP POWERED 4 DIGIT LED PROGRAMMABLE DIGITAL INDICATOR

DAT 8050



GENERAL DESCRIPTION

The digital panel indicator DAT 8050 accept on the input a 4 - 20 mA current loop signal. The input current signal is used to supply the device introducing a 5 Vdc voltage drop-out on the current loop, so is not required any external supply source. The user can program the visualisation of the measure in the range from -1999 up to 9999 points in order to set the values of the physical or electrical parameter transmitted on the current loop in the desired format. The programming of the visualization is made by the buttons "SET" and "ENTER" located on the front side of the instrument.

FEATURES

- 4÷20 mA loop powered
- Voltage Drop-out < 5V
- High accuracy and linearity
- 0.52" LED display

- Visualization configurable on the front side
- Connections on removable screw terminals
- Compact case size (DIN 48 x 96 mm)
- EMC compliance - CE mark



Application areas



TEMPERATURE & HUMIDITY

Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Noryl self-extinguishing plastic (UL94-V0)
Dim. (mm)	W x H x T : 48 x 96 x 74
Weight	about 150 g.

INPUT

Input signal	4 ÷ 20 mA
Voltage drop-out	< 5 V
Limitation current	< 50 mA

DISPLAY

Type of visualization	4 digits LED
Digit height	0.52"
Range of visualization (*)	Programmable on the front side, from "-1999" up to "9999", with High: 1(on left side). Low: -1(on left side)
Minimum measurable current	3.8 mA (visualization "Lo" in case of lower measure)
Maximum measurable current	20.2 mA (visualization "Hi" in case of higher measure)

CHARACTERISTICS AND PERFORMANCES

Reading accuracy	the better than ± 0.05 % of f.s. or ± 1 digit.
Resolution	4 uA
Response time	< 0.5 sec.
Thermal drift	± 0.01 % of f.s. / °C

(*)= default visualization : 4.00 ÷ 20.00

3.5 DIGIT LED DIGITAL INDICATOR

DAT 701



GENERAL DESCRIPTION

The DAT 701 is a 3.5 digit LED digital indicator with high accuracy and reliability able to measure the normalised current or voltage signal applied to its input .

In function of the parameters requested in phase of order, the following versions of the device are available:

- DAT 701 V - A: measure of voltage signal with amplitude from ± 200 mV up to ± 20 V ;
- DAT 701 V - B: measure of voltage signal with amplitude from ± 2 V up to ± 200 V;
- DAT 701 I - A: measure of current signal with amplitude from ± 200 mA up to ± 2 mA;
- DAT 701 I - B: measure of current signal with amplitude from ± 2 mA up to ± 200 mA.

FEATURES

- Voltage or current inputs
- Programmable decimal point and Attenuation ratio
- High accuracy and linearity
- Auto-zero
- Measuring freeze by command
- Options for low consumption or high brightness
- EMC compliant – CE mark
- Low profile (15 mm) DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard



Application areas



TEMPERATURE & HUMIDITY

Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 15
Weight	about 50 g.

INPUT

Configuration	Bipolar, true differential
Input impedance	
Voltage	basic scale: 10 M Ω
	attenuated scale: 1 M Ω
Current	From 1 Ω up to 1K Ω
Maximum input signal	2.5 full scale
Common mode voltage	± 2 V referred to the power supply ground
Common mode rejection ratio	86 dB
Normal mode rejection ratio	50 dB @ 50 Hz
Decimal point programming	From front side, on three decades

VISUALISATION

Scale of visualisation	2000 points (from 0 up to 1999 or from -1999 up to 0)
Out of range visualisation	High = 1; Low = -1
Type of visualization	3.5 digit standard LED display (version S)
Display LED	3.5 digit high efficiency LED display (version H)
Digit height	0.52 "

CHARACTERISTICS AND PERFORMANCES

Reading accuracy	± 0.1 % of f.s.
Thermal drift	0.005 % of f.s./°C
Reading rate	3 read/second
Power supply voltage	5 Vdc ± 5 %
Current consumption	Version S: 90 mA
	Version H: 180 mA

3.5 DIGIT LCD DIGITAL INDICATOR

DAT 702



GENERAL DESCRIPTION

The DAT 702 is a 3.5 digit LCD digital indicator with high accuracy and reliability able to measure the normalised current or voltage signal applied to its input .

In function of the parameters requested in phase of order, the following versions of the device are available:

- DAT 702 V - A: measure of voltage signal with amplitude from ± 200 mV up to ± 20 V ;
- DAT 702 V - B: measure of voltage signal with amplitude from ± 2 V up to ± 200 V;
- DAT 702 I - A: measure of current signal with amplitude from ± 200 μ A up to ± 2 mA;
- DAT 702 I - B: measure of current signal with amplitude from ± 2 mA up to ± 200 mA.

FEATURES

- Voltage or current inputs
- Programmable decimal point and Attenuation ratio
- High accuracy and linearity
- Auto-zero
- Measuring freeze by command
- Single power supply voltage (5 Vdc or 9 Vdc)
- EMC compliant – CE mark
- Low profile (15 mm) DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard



Application areas



TEMPERATURE & HUMIDITY

Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 15
Weight	about 50 g.

INPUT

Configuration	Bipolar, true differential
Input impedance	
Voltage	basic scale: 10 M Ω
	attenuated scale: 1 M Ω
Current	From 1 Ω up to 1K Ω
Maximum input signal	2.5 full scale
Common mode voltage	± 2 V referred to the power supply ground
Common mode rejection ratio	86 dB
Normal mode rejection ratio	50 dB @ 50 Hz
Decimal point programming	From rear side, on three decades

VISUALISATION

Type of visualization	Static polarised Liquid Cristal Display for wide angle of visualization
Digit height	0.35"

CHARACTERISTICS AND PERFORMANCES

Reading accuracy	± 0.1 % of f.s.
Thermal drift	0.005 % of f.s./°C
Reading rate	3 read/second
Power supply voltage	Version 5 : 5 Vdc ± 5 %
	Version 9 : 9 Vdc ± 10 %
Current consumption	Version 5 : 3 mA
	Version 9 : 0.5 mA

DAT 733



GENERAL DESCRIPTION

The DAT 733 is a current loop, 3.5 digit LCD digital indicator with high accuracy and reliability. By dip-switches and potentiometers, it is possible to set the visualisation of the input measure in engineering units in a range included between 100 and 2000 points, to set the zero point between -1999 and 1999 and the position of the decimal point.

FEATURES

- 4 ÷ 20 mA current loop self-powered
- Visualisation configurable in engineering units
- High accuracy and linearity
- Measure freezing by command
- EMC compliant – CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN 43700 standard



Application areas



TEMPERATURE & HUMIDITY

Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +80°C
Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 39
Weight	About 100 g.

INPUT

Signal type	4 ÷ 20 mA from current loop
Voltage drop	2.5 V
Maximum input signal	50 mA
Visualisation settings	By dip switch and regulation by potentiometers
Zero value visualisation range	From -1999 up to 1999
Scales of visualisation	Scale 1 from 100 up to 700 points Scale 2 from 700 up to 1400 points Scale 3 from 1400 up to 2000 points

Decimal point setting

From rear side, on three decades by dip-switch

Out of scale visualisation

High: 1(on left side). Low: -1(on left side)

VISUALISATION

Type of visualization	Static polarised Liquid Crystal Display for wide angle of visualisation
Digit height	0.35"

CHARACTERISTICS AND PERFORMANCES

Reading accuracy	±0.1 % del f.s.
Thermal drift	0.005 % of f.s./°C
Reading rate	3 read/second
Power supply	Self-powered from the input signal

DIGITAL INDICATORS

3.5 DIGIT LCD OR LED DISPLAY DIGITAL THERMOMETER FOR PT100

DAT 734



GENERAL DESCRIPTION

The DAT 734 is a 3.5 digit LCD or LED display, digital thermometer for Pt100 2 or 3 wires sensor with high accuracy and reliability. The range of measure must be chosen in phase of order between the two options : -50 ÷ 200 °C or 0 ÷ 600 °C.

FEATURES

- Input for Pt100 2 or 3 wires sensors
- Visualisation on LCD or LED display
- High accuracy
- Measure freezing by command
- Low current consumption
- EMC compliant – CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN 43700 standard



Application areas



TEMPERATURE & HUMIDITY

Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +80°C
Relative Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 39
Weight	About 100 g.

INPUT

Signal type	2 or 3 wires Pt100 sensor
Input range	-50 ÷ 200 °C / 0 ÷ 600 °C
Out of scale visualisation	High: 1 (on left side). Low: -1 (on left side)

VISUALISATION

Type of visualization (LCD - Version C)	Static polarised Liquid Cristal Display for wide angle of visualization
Digit height	0.35"
Type of visualization (LED - Version D)	High efficiency LED display or standard LED display
Digit height	0.52"

CHARACTERISTICS AND PERFORMANCES

Reading accuracy	± 0.25 % of f.s.
Response time	800 ms
Power supply voltage	5 Vdc ± 5 %
Thermal drift	0.02 % of f.s./°C

Current consumption

Version D	180 mA (high efficiency), 90 mA (standard)
Version C	10 mA

3.5 DIGIT LCD OR LED DISPLAY DIGITAL THERMOMETER FOR THERMOCOUPLE

DAT 735



GENERAL DESCRIPTION

The DAT 735 is a 3.5 digit LCD or LED display, digital thermometer for Thermocouple sensor type E, K, J, N, S and T with high accuracy and reliability.

FEATURES

- Input for Thermocouple sensors type E, K, J, N, S and T
- Visualisation on LCD or LED display
- High accuracy
- Measure freezing by command
- Low current consumption
- EMC compliant – CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard



Application areas



TEMPERATURE & HUMIDITY

Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +80°C
Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 39
Weight	About 100 g.

INPUT

Signal type	Thermocouple type E, K, J, N, S and T
Ranges of measure	
Thermocouple type E	0 ÷ 900 °C
Thermocouple type K	0 ÷ 1200 °C
Thermocouple type J	0 ÷ 600 °C
Thermocouple type N	0 ÷ 1200 °C
Thermocouple type S	0 ÷ 1600 °C
Thermocouple type T	0 ÷ 300 °C
Out of scale visualisation	High: 1 (On the left side); Low -1 (On the left side)

VISUALISATION

Type of visualization (LCD - Version C)	Static polarised Liquid Cristal Display for wide angle of visualization
Digit height	0.35"
Type of visualization (LED - Version D)	High efficiency LED display or standard LED display
Digit height	0.52"

CHARACTERISTICS AND PERFORMANCES

Reading accuracy	±0.25 % of f.s.
Cold Junction Compensation	±0.5 °C
Thermal drift	0.02 % of f.s./°C
Response time	800 ms
Power supply voltage	5 Vdc ± 5 %
Current consumption	Version D: 180 mA (high efficiency), 90 mA (standard)



ELECTRONIC AND CONTROL PROCESS DEVICES

DIGITAL INDICATORS