



## "DAT200, DAT500 SERIES": signal transmitters and converters, galvanic isolators

The transmitters and converters of the DAT200 series can accept on their input signal coming from potentiometer sensors (DAT205) or voltage and current signals (DAT207) The series is composed of:

- Not isolated transmitter for potentiometer input from 1 Kohm up to 10 Kohm. Powered from 4÷20 mA current loop (**DAT205 2W**).
- Not isolated converter for potentiometer input from 1 Kohm up to 10 Kohm. Fixed range (**DAT205 3W**).
- Not isolated transmitter for mV, V, mA input . Fixed range. Powered from 4÷20 mA current loop (**DAT207 2W**).
- Not isolated converter for mV, V, mA input . Fixed range. (**DAT207 3W**).
- Self-powered, 3000 Vac isolated converter for 0÷20 mA current loop. (**DAT511**).
- Self-powered, 1500 Vac isolated converter for 0÷20 mA current loop. Hart compatible (**DAT511-H**).

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# 06



**DAT200** Signal transmitters and  
**DAT500** converters, galvanic  
**SERIES** isolators

**DAT 205 2W**

**GENERAL DESCRIPTION**

The transmitter DAT 205 2W is designed to provide on output a 4÷20 mA current loop linearised signal proportional with the variation of resistance introduced from the potentiometer connected to its input; to make the measure, a 1 Vdc voltage reference is provided at the ends of the potentiometer. The regulation of the zero and full-scale value are made using the ZERO and SPAN potentiometers; there is not influence between the regulations.

**FEATURES**

- Input for potentiometer
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- 4÷20 mA current loop linearised output
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035


**Application areas**

**POWER SUPPLY**

Power supply voltage	10 .. 32 Vdc
Reverse polarity protection	60 Vdc max

**TEMPERATURE & HUMIDITY**

Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	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
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

**INPUT**

Input type	Min	Max	Span min
Potentiometer (Rnom.1 ... 10KΩ)	0%	100%	-

**Calibration**

Potentiometer	± 0.1 % f.s.
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**Linearity**

± 0.1 % f.s.
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**Thermal drift**

Full scale	± 0.02 % / °C
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**OUTPUT**

Output type	Min	Max	Span min
Current	4 mA	20 mA	-

**Burn-out values**

Max. value output	25 mA
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<b>Response time (10÷90%)</b>	about 500 ms
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DAT200, DAT500 SERIES

**DAT 205 3W**

**GENERAL DESCRIPTION**

The converter DAT 205 3W is designed to provide on output a linearised voltage or current signal proportional with the variation of resistance introduced from the potentiometer connected to its input; to make the measure, a 1 Vdc voltage reference is provided at the ends of the potentiometer. The regulations of the zero and full-scale value are made using the ZERO and SPAN potentiometers; there is not influence between the regulations.

**FEATURES**

- Input for potentiometer
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- Output in voltage or current
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035


**Application areas**

**POWER SUPPLY**

Power supply voltage	18 .. 30 Vdc
Reverse polarity protection	60 Vdc max

**CURRENT CONSUMPTION**

Current output	30 mA max.
Voltage output	10 mA max.

**TEMPERATURE & HUMIDITY**

Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	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
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

**INPUT**

Input type	Min	Max	Span min
Potentiometer (Rnom.1 ... 10KΩ)	0%	100%	-

**Calibration**

Potentiometer	± 0.1 % f.s.
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**Linearity**

± 0.1 % f.s.
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**Thermal drift**

Full scale	± 0.02 % / °C
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**OUTPUT**

Output type	Min	Max	Span min
Current	0 mA	20 mA	-
Voltage	0 V	10 V	-

**Burn-out values**

Max. value output	25 mA or 15V
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<b>Response time (10÷90%)</b>	about 500 ms
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**FIXED RANGE TRANSMITTER FOR mV, V AND mA SIGNALS**
**DAT 207 2W**

**GENERAL DESCRIPTION**

The transmitter DAT 207 2W is designed to provide on output a 4÷20 mA current loop signal proportional with the variation of the normalised current or voltage signal applied to its input.

**FEATURES**

- Input for current or voltage signals
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- 4÷20 mA current loop output
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

**The transmitter is available in 3 different versions:**

- DAT 207A 2W to measure voltage signals included between 0 ÷ 5 mV and 0 ÷ 200 mV;
- DAT 207B 2W to measure voltage signals included between 0 ÷ 200 mV and 0 ÷ 20 V;
- DAT 207C 2W to measure current signals between 0 ÷ 5 mA and 0 ÷ 50 mA.


**Application areas**

**POWER SUPPLY**

Power supply voltage	10 .. 32 Vdc
Reverse polarity protection	60 Vdc max

**TEMPERATURE & HUMIDITY**

Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	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
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

**INPUT**

Input type	Min	Max	Span min
<b>Voltage</b>			
Version "A"	0 ÷ 5 mV	0 ÷ 200 mV	-
Version "B"	0 ÷ 200 mV	0 ÷ 20 V	-
<b>Current</b>			
Version "C"	0 ÷ 5 mA	0 ÷ 50 mA	-
<b>Calibration</b>			
mV, V, mA		± 0.1 % f.s.	
<b>Linearity</b>			
± 0.1 % f.s.			
<b>Thermal drift</b>			
Full scale		± 0.02 % / °C	

**OUTPUT**

Output type	Min	Max	Span min
Current	4 mA	20 mA	-
<b>Burn-out values</b>			
Max. value output		25 mA	
<b>Response time (10÷90%)</b>		about 300 ms	

**CONVERTER FOR mV, V AND mA SIGNALS**
**DAT 207 3W**

**GENERAL DESCRIPTION**

The converter DAT 207 3W is designed to provide on output a 4÷20 mA current loop signal proportional with the variation of the normalised current or voltage signal applied to its input.

**FEATURES**

- Input for current or voltage signals
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- Output in voltage or current
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

**The converter is available in 3 different versions:**

- DAT 207A 3W to measure voltage signals included between 0 ÷ 5 mV and 0 ÷ 200 mV;
- DAT 207B 3W to measure voltage signals included between 0 ÷ 200 mV and 0 ÷ 20 V;
- DAT 207C 3W to measure current signals between 0 ÷ 5 mA and 0 ÷ 50 mA.


**Application areas**

**POWER SUPPLY**

Power supply voltage	18 .. 30 Vdc
Reverse polarity protection	60 Vdc max

**CURRENT CONSUMPTION**

Current output	30 mA max.
Voltage output	10 mA max.

**TEMPERATURE & HUMIDITY**

Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	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
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

**INPUT**

Input type	Min	Max	Span min
<b>Voltage</b>			
Version "A"	0 ÷ 5 mV	0 ÷ 200 mV	-
Version "B"	0 ÷ 200 mV	0 ÷ 20 V	-
<b>Current</b>			
Version "C"	0 ÷ 5 mA	0 ÷ 50 mA	-
<b>Calibration</b>			
mV, V, mA		± 0.1 % f.s.	
<b>Linearity</b>			
± 0.1 % f.s.			
<b>Thermal drift</b>			
Full scale		± 0.02 % / °C	

**OUTPUT**

Output type	Min	Max	Span min
Current	0 mA	20 mA	-
Voltage	0 V	10 V	-
<b>Burn-out values</b>			
Max. value output		25 mA or 15V	
<b>Response time (10÷90%)</b>		about 300 ms	

**DAT 511**



**GENERAL DESCRIPTION**

The transmitter DAT 511 is a passive 0÷20 mA current loop isolator. The input current, variable from 0 up to 20 mA, is converted in an output current of the same value but keeping a galvanic isolation from the input circuit. The converter is a passive isolator: this means that the device employs the measurement signal to power it self, so it does not require any external power supply.

**FEATURES**

- 0÷20 mA isolated conversion
- No external supply required
- 3000 Vac galvanic isolation
- Good accuracy and performance stability
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035



**Application areas**



**TEMPERATURE & HUMIDITY**

Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	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
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	About 60 g.

**INPUT**

Input type	Min	Max	Span min
Current	0 mA	20 mA	-
<b>Max. INPUT signal</b>		50 mA	
<b>Load resistance (Rload)</b>			
From 0 to 700 ohm			
<b>Thermal drift</b>			
Full scale		± 0.02 % / °C	

**OUTPUT**

Output type	Min	Max	Span min
Current	0 mA	20 mA	-
<b>Burn-out values</b>		Max. value output 25 mA	
<b>Isolation voltage</b>			
3000 Vac, 50 Hz 1 min.			
<b>Response time (10÷90%)</b>		About 20 ms	

DAT200, DAT500 SERIES

**SELF-POWERED CURRENT LOOP ISOLATOR HART COMPATIBLE**

**DAT 511/H**



**GENERAL DESCRIPTION**

The transmitter DAT 511/H is a passive 0÷20 mA current loop isolator. The input current, variable from 0 up to 20 mA, is converted in an output current of the same value but keeping a galvanic isolation from the input circuit. The device allows the bidirectional communication of signals HART protocol compatible. The converter is a passive isolator: this means that the device employs the measurement signal to power it self, so it does not require any external power supply.

**FEATURES**

- 0÷20 mA isolated conversion
- Hart compatible
- No external supply required
- 1500 Vac galvanic isolation
- Good accuracy and performance stability
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035



**Application areas**



**TEMPERATURE & HUMIDITY**

Operative temperature	0°C .. +55°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	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
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	About 60 g.

**INPUT**

Input type	Min	Max	Span min
Current	0 mA	20 mA	-
<b>Max. INPUT signal</b>		50 mA	
<b>Load resistance (Rload)</b>			
From 0 to 700 ohm			
<b>Thermal drift</b>			
Full scale		± 0.02% / °C	
<b>Bandwidth</b>			
From 0.5 up to 4 KHz bidirectional within 3 dB			

**OUTPUT**

Output type	Min	Max	Span min
Current	0 mA	20 mA	-
<b>Burn-out values</b>		Max. value output 25 mA	
<b>Isolation voltage</b>			
1500 Vac, 50 Hz 1 min.			
<b>Response time (10÷90%)</b>		About 20 ms	



ELECTRONIC AND CONTROL PROCESS DEVICES



## Signal transmitters and converters, galvanic isolators

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Industries



Board machine



Energy



Food business



Water treatment

Application areas