



“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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Self-powered current loop isolator HART compatible

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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.

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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Response time (10÷90%)	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.

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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Response time (10÷90%)	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
Voltage			
Version "A"	0 ÷ 5 mV	0 ÷ 200 mV	-
Version "B"	0 ÷ 200 mV	0 ÷ 20 V	-
Current			
Version "C"	0 ÷ 5 mA	0 ÷ 50 mA	-
Calibration			
mV, V, mA		± 0.1 % f.s.	
Linearity			
± 0.1 % f.s.			
Thermal drift			
Full scale		± 0.02 % / °C	

OUTPUT

Output type	Min	Max	Span min
Current	4 mA	20 mA	-
Burn-out values			
Max. value output		25 mA	
Response time (10÷90%)		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
Voltage			
Version "A"	0 ÷ 5 mV	0 ÷ 200 mV	-
Version "B"	0 ÷ 200 mV	0 ÷ 20 V	-
Current			
Version "C"	0 ÷ 5 mA	0 ÷ 50 mA	-
Calibration			
mV, V, mA		± 0.1 % f.s.	
Linearity			
± 0.1 % f.s.			
Thermal drift			
Full scale		± 0.02 % / °C	

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	
Response time (10÷90%)		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	-
Max. INPUT signal		50 mA	
Load resistance (Rload)			
From 0 to 700 ohm			
Thermal drift			
Full scale		± 0.02 % / °C	

OUTPUT

Output type	Min	Max	Span min
Current	0 mA	20 mA	-
Burn-out values			
Max. value output		25 mA	
Isolation voltage			
3000 Vac, 50 Hz 1 min.			
Response time (10÷90%)		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	-
Max. INPUT signal		50 mA	
Load resistance (Rload)			
From 0 to 700 ohm			
Thermal drift			
Full scale		± 0.02% / °C	
Bandwidth			
From 0.5 up to 4 KHz bidirectional within 3 dB			

OUTPUT

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

ELECTRONIC AND CONTROL PROCESS DEVICES



Signal transmitters and converters, galvanic isolators

www.datexel.it



Industries



Board machine



Energy



Food business



Water treatment

Application areas