DATEXEL

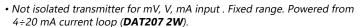


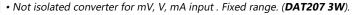
"DAT200, DAT500 SERIES": signal transmitters and converters, galvanic isolators

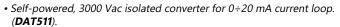
The transmitters and converters of the DAT200 series can accept on their input signal coming from potentiometer sensors (DAT205) or voltage and current signals (DAT207) The series is composed of:



- 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).







• Self-powered, 1500 Vac isolated converter for 0÷20 mA current loop. Hart compatible (DAT511-H).







INDEX

46 • **DAT 205 2W** Fixed range Transmitter for potentiometer **DAT 205 3W** Fixed range Converter for potentiometer

DAT 207 2W Fixed range transmitter for mV,V and mA signals **DAT 207 3W** Converter for mV,V and mA signals

Self-powered current loop isolator

Self-powered current loop isolator HART compatible



DAT200/500 SERIES

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DAT200 Signal transmitters and converters, galvanic isolators





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











PO	WE	R S	UP	PLY
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10 .. 32 Vdc Power supply voltage 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

DAT 205 3W

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	x Span min	
Potentiometer (Rnom.1 10KΩ)	0%	100%	-	
Calibration				
Potentiometer	± 0.1	% f.s.		
Linearity				
± 0.1 % f.s.				
Thermal drift				
Full scale		± 0.02	2 % / °C	

ОИТРИТ				
Output type	Min	Max	Span min	
Current	4 mA	20 mA	-	
Burn-out values				
Max. value output		25 mA		
Response time (10÷90%)		about 500 m	S	

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

GENERAL DESCRIPTION

- 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

FIXED RANGE CONVERTER FOR POTENTIOMETER



INPUT





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.
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Input type	Min	Max	Span min	
Potentiometer (Rnom.1 10ΚΩ)	0%	100%	-	
Calibration				
Potentiometer	± 0.1 % f	± 0.1 % f.s.		
Linearity				
± 0.1 % f.s.				
Thermal drift				
Full scale	Full scale ± 0.02 % / °C			
		•		

001101				
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 500 ms	5	
<u> </u>				

FIXED RANGE TRANSMITTER FOR mV, V AND mA SIGNALS

DAT 207 2W

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







Application areas











POWER SUPPLY		
Power supply voltage		10 32 Vdc
Reverse pola	rity protection	60 Vdc max
TEMPERA	TURE & HU	MIDITY
Operative ter	mperature	-20°C +70°C
Storage temp	perature	-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				
nV, V, mA ± 0.1 % f.s.				
Linearity				
± 0.1 % f.s.				
Thermal drift	t			
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 n	ns

CONVERTER FOR mV,V AND mA SIGNALS

38 **DAT 207**

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.

- 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 \div 200 mV and 0 \div 20 V;
- DAT 207C 3W to measure current signals between $0 \div 5$ mA and $0 \div 50$ mA.







Application areas











POWER SUPPLY

18 .. 30 Vdc Power supply voltage 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.		S.		
Linearity				
± 0.1 % f.s.				
Thermal drift				
Full scale			± 0.02 %	/ °C

OUTPUT			
utput type	Min	Max	Span min
urrent	0 mA	20 mA	-
oltage	0 V	10 V	-
urn-out values			
Max. value output 25 mA or 15V			
Response time (10÷90%) about 300 ms		S	
Max. value output			



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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	ı			
Thermal drift				
Full scale		± 0.02 % / °C		

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ОИТРИТ				
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		

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 itself, 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		





