



DPT02 Digital Universal input Signal Converter



Application

- Local display, easy keypad programming the signal output and scale, led for working status.
- Measuring input type : DC current / DC voltage / Potentiometer / Linear Resistance / RTD / TC
- More output type — analogue output / RS-485 / relay / NPN or PNP, 2 channel output
- 20-point linear calibration function
- Signal isolation function — power supply / analogue input / analogue output / RS-485
- Power supply : 85~253 VAC ; auxiliary supply output (16~25VDC / 23 mA) : use for 2-wire & 3-wire transmitter
- User-friendly. High light red LED display panel, 7.6 mm (height of character), 3 digits, -199~999, 7-segment display
- DIN rail installation, High safety & stability, fire-proof case, moisture-proof cover
- Field — Chemical Industry / Energy / Water Circulation System / Oil & Gas / Marine / Factory Automation / Metal & Steel / Cement / Pulp & Paper / Pharmaceuticals / Food & Beverage

Specification

Display

display readout	3 digits (- 199 ... + 999)
decimal point	0 ... 2 place, button
screen	highlight red LED (7-segment)
digit height	7.6 mm
accuracy	0.1 % F.S. \pm 1 digital
sampling time	4 cycle / sec
response time adjustment range	0.5 ... 60 sec
parameter setting mode	button

Input

input	voltage : 0 ... 10V, 2 ... 10V, 0 ... 1V, 0 ... 5 V, 0.2 ... 1V, 1 ... 5V
	current : 0 ... 20mA, 4 ... 20mA
	RTD : Pt10, Pt20, Pt50, Pt100, Pt200, Pt250, Pt300, Pt400, Pt500, Pt1000, 2/3/4w
	TC : B, E, J, K, N, R, S, T, U (internal CJC function)
	Linear Resistance : 0 ... 10 K Ω
	Potentiometer : 10 ... 100K Ω

Output

analogue	current : 0-20mA, 4-20mA, 20-0mA 20-4mA
	voltage : 0-1V, 0.2-1V, 0-5V, 1-5V, 0-10V, 2-10V, 1-0V, 1-0.2V, 5-0V, 5-1V, 10-0V, 10-2V
	RELAY, NPN, PNP : RS-485
load resistance	current : < 500 Ω
	voltage : \geq 10 K Ω
analogue output resolution	16 bit
signal error detection	yes

relays

alarm hysteresis	display value or 0~100%
ON and OFF delay	0~3600s
output signal error detection	yes
relay actuation direction	upper limit : HI, AL lower limit : LO, AL
relay capacity	Max current : 6A
	Max voltage : 277VAC / 30VDC
	Max power : 1500VA / 180W

communication

communication methods & protocol	RS-485 Modbus RTU , master or slave
RS-485 baud rate	9600, 19200, 38400, 57600, 115200 bps

Frequency

	NPN / PNP
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Environment

operating environment	- 10 to + 60 °C ; 0 to 95 % (non-cond.)
storage environment	- 25 to + 70 °C

Electrical

power supply / voltage	85~253VAC
auxiliary power	16~25VDC/23mA
insulation voltage endurance	2KVac/1min
parameter memory type	FLASH
dissipated power	5W

Isolation

power supply / analogue input / analogue output / RS-485	
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Protect

protect degree	IP20
electric protection	⊙polarity protection ⊙over-voltage

CE Certification

Emission EN 61326-1 : 2013	
	CISPR11:2009+A1:2010 Group 1 Class B
	EN 61000-3-2:2014
	EN 61000-3-3:2013

Immunity EN 61326-1 : 2013	IEC 61000-4-5:2014
	IEC 61000-4-2:2008
	IEC 61000-4-3:2006+A1:2007+A2:2010
	IEC 61000-4-8:2009
	IEC 61000-4-4:2012
	IEC 61000-4-11:2004

Material

case	ABS fire-proof class (UL94V-0)
dimensions (HxWxD)	99.5 x 25.5 x 104.2 mm
weight	about 158 g

Ordering Guide

type	DPT02 -	B
output	1 Analogue Output	A
	2 Analogue Output	B
	2 Analogue Output + RS-485	C
	1 Analogue Output + RS-485+Relay	D
	1 Analogue Output + RS-485+PNP/NPN	E

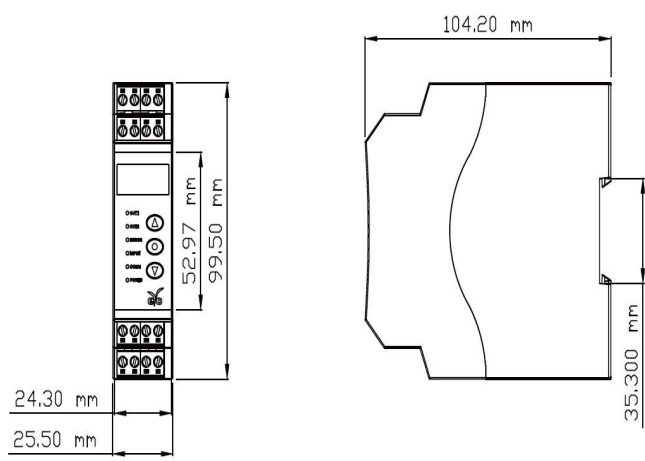
Connection Diagram

31	34	DPT02-A (1 analogue output)	DPT02-B (2 analogue output)
21 22 23 24		31 : 85~253 VAC 34 : 85~253 VAC	31 : 85~253 VAC 34 : 85~253 VAC 21 : -A.OUT2 22 : +A.OUT2
eyc		1 : Pt(b) 4,3 2 : -mA -V Pt(B) 4,3,2 3 : +mA Pt(A) 4,3,2 4 : +exc. +V Pt(a) 4	+TC * -TC * Potm.1 Potm.3 Potm.2 Lin.R Lin.R
1 2 3 4		11 : -A.OUT1 12 : +A.OUT1	
11 12 13 14		13 : 14 :	

31	34	DPT02-C (1 analogue output + RS-485)	DPT02-D (1 analogue output+ RS-485 +Relay)	DPT02-E (1 analogue output + RS-485 + PNP/NPN)
21 22 23 24		31 : 85~253 VAC 34 : 85~253 VAC	31 : 85~253 VAC 34 : 85~253 VAC 21 : relay. COM 22 : relay. NO 23 : relay. NC	31 : 85~253 VAC 34 : 85~253 VAC 21 : GND(-) 22 : NPN 23 : PNP 24 : VCC(+)
eyc		1 : Pt(b) 4,3 2 : -mA -V Pt(B) 4,3,2 3 : +mA Pt(A) 4,3,2 4 : +exc. +V Pt(a) 4	+TC * -TC * Potm.1 Potm.3 Potm.2	Lin.R Lin.R
1 2 3 4		11 : -A.OUT1 12 : +A.OUT1		
11 12 13 14		13 : RS-485 D- 14 : RS-485 D+		

* TC Type connect PT100 (Reference Point)

Diagram



TC output (TC : J / K / T) Type Connection

※ option

31	34	Name	External Cold Junction Compensation Resistor
21 22 23 24		Oder No.	8205302010
		Product	

*1 : TC connecting way
*2 : Option : Cold junction compensation (CJC) connecting way