

Description

UC1 is a universal input converter or isolator which include input signal 0(4)~20mA, 0~10V, Thermocouple, RTD, etc. Base on measuring signal needed, parameters can be set via panel button with LCD display. Programmable unit without need of hardware modification or jumper wire/ Dip-Switch.

UC1 offer 3 kind of output option, analogue output or Relay *2 or RS485(Modbus RTU).

With universal input range and different output function, it help reduce product inventory. Parameters can be easily set via button on site or by software provided through communication port.



Feature

- Programmable input signal
- Programmable analogue output
- LCD on unit for easy setting
- Pluggable terminal for easy wiring
- Isolation between input, output and power

Ordering Information

UC1	—	Function	—	Aux. Power																
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Technical Specification

DC voltage / Current input

Input Range	Input Impedance
0~10mA, 0~20mA, 4~20mA	250Ω
0~5V, 0~10V, 1~5V	1MΩ
0~100mV	1MΩ

Pt100Ω

Input Range	Input Impedance
Pt100Ω -200.0~850.0 °C	1MΩ

Thermocouple Input

Input Range	Input Impedance	
K Type -150.0~1372.0 °C	-238.0~2501.0 °F	1MΩ
J Type -150.0~1200.0 °C	-238.0~2192.0 °F	1MΩ
E Type -150.0~1000.0 °C	-238.0~1832.0 °F	1MΩ
T Type -150.0~400.0 °C	-238.0~752.0 °F	1MΩ
R Type 0.0~1700.0 °C	32.0~3092.0 °F	1MΩ
S Type 0.0~1768.0 °C	32.0~3214.0 °F	1MΩ
B Type 600.0~1820.0 °C	1112.0~3308.0 °F	1MΩ
N Type -150.0~1300.0 °C	-238.0~2372.0 °F	1MΩ

Cold Junction: $\leq \pm 0.5$ °C@ 0~60 °C

Analogue Output

Output Range	Output Impedance
0~20mA, 4~20mA	$\leq 520\Omega$
0~10V, 2~10V	$\geq 1000\Omega$
0~5V, 1~5V	$\geq 500\Omega$

Input

Accuracy: DC Voltage/Current: $\leq \pm 0.04\%$ FS ± 1 count
Resistance: $\pm \leq 0.1\%$ FS ± 1 count
Thermocouple: $\pm \leq 0.2\%$ FS ± 1 count
Response time: ≤ 250 mS; Thermocouple: ≤ 500 mS

Display & Functions

Numeric: 4 2/3 digits, LCD
Display range: -19999~+29999
Response time: ≤ 250 mS; Thermocouple: ≤ 500 mS
Scaling function:

Lo.SC: Low Scale:
Settable range: -19999~+29999;
Hi.SC: High Scale:

Settable range: -19999~+29999
Over range indication: oful, when input is over 20% of input range Hi
Under range indication: -oful, when input is under -20% of input range Lo
Low cut: -19999~+29999
Average: 1~99 times
Moving average: 1~99 times

Relay Output

Control relay: Two relays; FORM-A; 1A/230Vac; 2A/115V
Relay energized mode: Hi / Lo / Hi.HLd / Lo.HLd programmable
Energizing functions: Start delay / Energized & De-energized delay / Hysteresis / Energized Latch
Start band(Minimum level for Energizing): 0~9999 count
Start delay time: 0:00.0~9(Minutes):59.9(Second)
Energized delay time: 0:00.0~9(Minutes):59.9(Second)
De-energized delay time: 0:00.0~9(Minutes):59.9(Second)
Hysteresis: 0~5000 count



Analogue Output

Ripple: $\leq \pm 0.1\%$ of F.S.
 Can set the type and range of analog output
 Voltage: 0~5V / 1~5V / 0~10V / 2~10V
 Current: 0~20mA / 4~20mA
 Voltage: 0~10V / 2~10V: $\geq 1000\Omega$;
 Voltage: 0~5V / 1~5V: $\geq 500\Omega$;
 Current: 4(0)~20mA: $\leq 520\Omega$ max
 $\leq 250\text{mS}$ (Input 10%~Output 90% of FS)
 Thermocouple:
 $\leq 500\text{mS}$ (Input 10%~Output 90% of FS)
 Output range Low: Settable range: -19999~29999
 Output range High: Settable range: -19999~29999
 Output range Low: Settable range: -19999~29999
 Output range High: Settable range: -19999~29999

RS485 Communication

Protocol: RS485 Modbus RTU mode
 Baud rate: 1200/2400/4800/9600/19200/38400 programmable
 Data bits: 8 bits
 Parity: None / Even / Odd programmable
 Stop bits: 1 or 2 programmable
 Address: 1~247 programmable
 Distance: 1200M max
 Terminate resistor: 120~300 Ω /0.25W(typical: 150)

Environmental

Operating temp.: 0~60 $^{\circ}\text{C}$
 Operating humidity: 20~95%, Non-condensing
 Temp. coefficient: ≤ 100 PPM/ $^{\circ}\text{C}$
 Storage temp.: -10~70 $^{\circ}\text{C}$ / Humidity 0~95%, Non-condensing
 Protection: IP 20
 Vibration: 1~800 Hz, 3.175 g^2/Hz

Power

Power supply: ADH: AC 85~264V, DC 100~300V
 ADL: AC/DC 20~56V
 Excitation supply: 24Vdc / 30mA
 Power consumption: DC: 4W; AC: 10VA

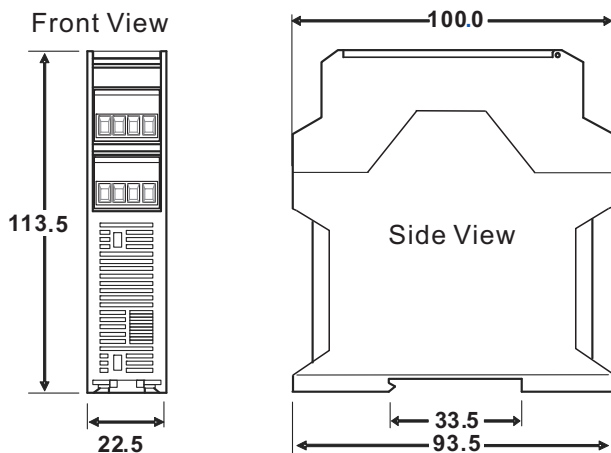
Mechanical

Dimensions: 113.5mm(H)x100.0mm(W)x22.5mm(D)
 Case materiel: ABS fire-resistance, UL94V0
 Mounting: 35mm DIN rail mounting (En50022)

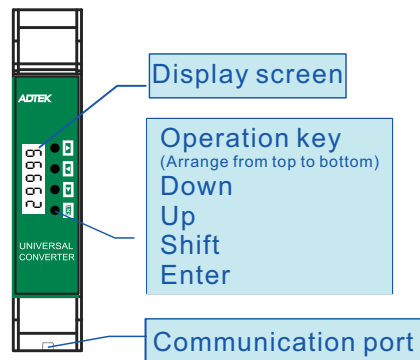
Electrical Safety

Electric isolation: AC 2KV, 50/60Hz, 1min;
 Between Power / Input / Output / Case
 Insulation resistance: $\geq 100\text{M ohm}$, DC500V
 EMC: EN61326: 2006
 Safety(LVD): EN61010-1: 2010
 Terminals: Pluggable terminal block,
 AWG: 28~16 / 0.5~1.5 mm^2
 Screw torque: M2 / 2.04kgf.cm(Max)
 250g

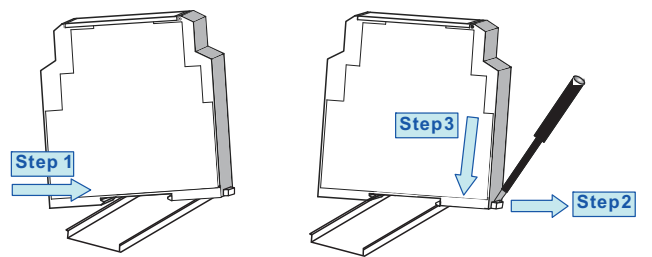
Dimensions



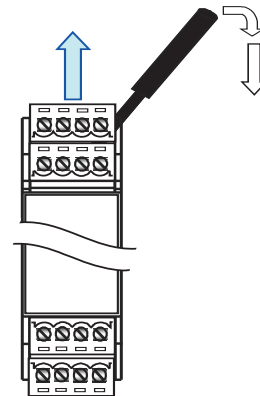
Top Panel



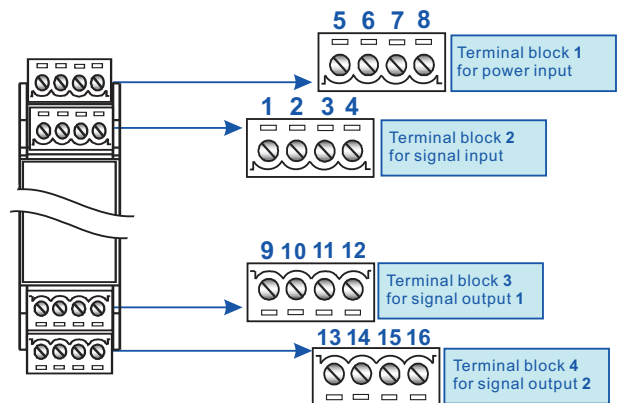
Installation



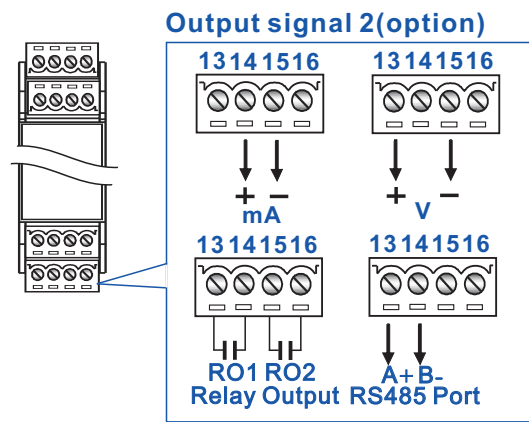
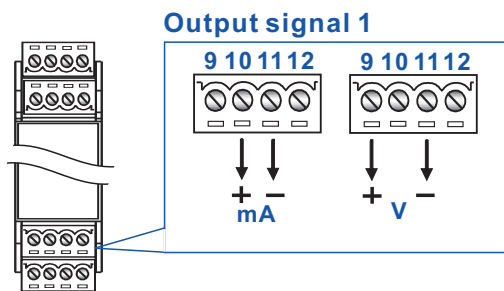
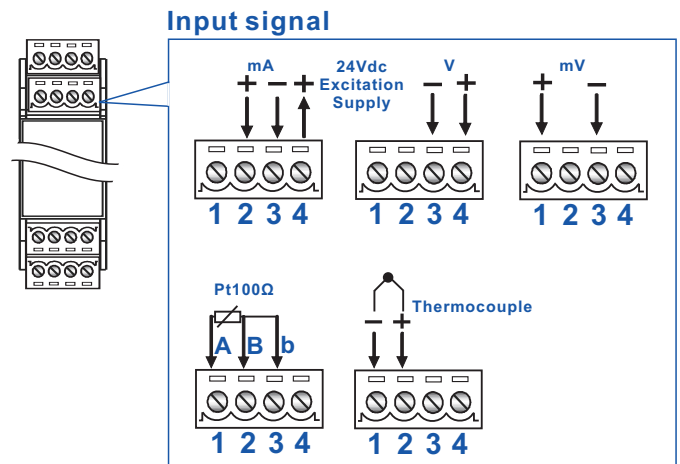
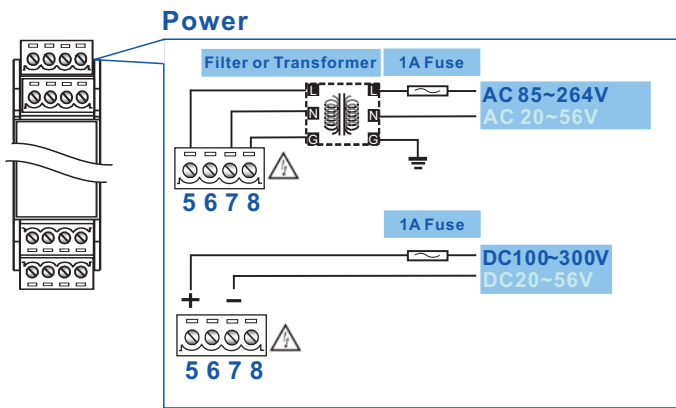
⚠ Don't pull wires, when take away the terminals



Terminal Block



■ Connection Diagram



UC1

