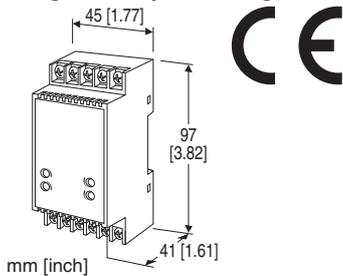**Terminal Block Dual Output Signal Conditioners W5-UNIT**

SIGNAL TRANSMITTER

Functions & Features
- Converts a DC input into two isolated outputs
- Two independent output ranges
- Four-way isolation (input to output 1 to output 2 to power)
- Fast response type available
- High-density mounting

45 [1.77]
97 [3.82]
41 [1.61]
mm [inch]

MODEL: W5VS-[1][2][3]-[4][5]

ORDERING INFORMATION
- Code number: W5VS-[1][2][3]-[4][5]

Specify a code from below for each of [1] through [5].
  (e.g. W5VS-6A6-R/K/Q)
- Special input and output ranges (For codes Z, 0, 01 & 02)
- Specify the specification for option code /Q
  (e.g. /C01/V01/S01)

[1] INPUT
Current
A: 4 – 20 mA DC (Input resistance 249 Ω)
B: 2 – 10 mA DC (Input resistance 499 Ω)
C: 1 – 5 mA DC (Input resistance 1000 Ω)
D: 0 – 20 mA DC (Input resistance 49.9 Ω)
E: 0 – 16 mA DC (Input resistance 61.9 Ω)
F: 0 – 10 mA DC (Input resistance 100 Ω)
G: 0 – 1 mA DC (Input resistance 1000 Ω)
H: 10 – 50 mA DC (Input resistance 20 Ω)
Z: Specify current (See INPUT SPECIFICATIONS)
Voltage
16: 0 – 60 mV DC (Input resistance 1 MΩ min.)
3: 0 – 1 V DC (Input resistance 1 MΩ min.)
4: 0 – 10 V DC (Input resistance 1 MΩ min.)
5: 0 – 5 V DC (Input resistance 1 MΩ min.)
6: 1 – 5 V DC (Input resistance 1 MΩ min.)
4W: -10 – +10 V DC (Input resistance 1 MΩ min.)
5W: -5 – +5 V DC (Input resistance 1 MΩ min.)
0: Specify voltage (See INPUT SPECIFICATIONS)
(CE not available. Power suffix code M, R2, P only.)
01: Specify voltage (See INPUT SPECIFICATIONS)
(Choose 01 for CE. Power suffix code R only.)
02: Specify voltage (See INPUT SPECIFICATIONS)
(CE not available. Power suffix code M, R2, P only.)

[2] OUTPUT 1
Current
A: 4 – 20 mA DC (Load resistance 550 Ω max.)
B: 2 – 10 mA DC (Load resistance 1100 Ω max.)
C: 1 – 5 mA DC (Load resistance 2200 Ω max.)
D: 0 – 20 mA DC (Load resistance 550 Ω max.)
E: 0 – 16 mA DC (Load resistance 685 Ω max.)
F: 0 – 10 mA DC (Load resistance 1100 Ω max.)
G: 0 – 1 mA DC (Load resistance 11 kΩ max.)
Z: Specify current (See OUTPUT SPECIFICATIONS)
Voltage
1: 0 – 10 mV DC (Load resistance 10 kΩ min.)
2: 0 – 100 mV DC (Load resistance 100 kΩ min.)
3: 0 – 1 V DC (Load resistance 100 Ω min.)
4: 0 – 10 V DC (Load resistance 1000 Ω min.)
5: 0 – 5 V DC (Load resistance 500 Ω min.)
6: 1 – 5 V DC (Load resistance 500 Ω min.)
4W: -10 – +10 V DC (Load resistance 2000 Ω min.)
5W: -5 – +5 V DC (Load resistance 1000 Ω min.)
0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] OUTPUT 2
Same range availability as Output 1
Y: None

[4] POWER INPUT
AC Power
M: 85 – 264 V AC (Operational voltage range 85 – 264 V,
47 – 66 Hz)
(CE not available)
DC Power
R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
R2: 11 – 27 V DC
(Operational voltage range 11 – 27 V, ripple 10 %p-p max.)
(CE not available)
P: 110 V DC
(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)
(CE not available)

[5] OPTIONS (multiple selections)
Response Time (0 – 90 %)
blank: Standard (≤ 0.5 sec.)
/K: Fast Response (Approx. 25 msec.)
Other Options
blank: none

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/Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our web site.)
/C01: Silicone coating
/C02: Polyurethane coating
/C03: Rubber coating
ADJUSTMENT
/V01: Multi-turn fine adjustment
/VN: Sealed adjustment holes
TERMINAL SCREW MATERIAL
/S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Terminal block
Connection
 Input: M3.5 screw terminals (torque 0.8 N·m)
 Output & power: M3 screw terminals (torque 0.8 N·m)
Screw terminal: Nickel-plated steel (standard) or stainless steel
Housing material: Flame-resistant resin (black)
Isolation: Input to output 1 to output 2 to power
Overrange output: Approx. -10 to +120 % at 1 – 5 V
Zero adjustment: -2 to +2 % (front)
(±1 % with the input suffix codes 4W and 5W selected)
Span adjustment: 98 to 102 % (front)
(99 to 101 % with the input suffix codes 4W and 5W selected.)

INPUT SPECIFICATIONS

■ **DC Current**: Input resistor incorporated
Specify input resistance value among followings for code Z.
 10Ω, 20Ω, 49.9Ω, 61.9Ω, 100Ω, 249Ω, 499Ω, 1000Ω
 $(0.125\ W \geq [\text{Input current}]^2 \times R)$
■ **DC Voltage**
Input resistance: 1 MΩ min.; 10 kΩ min. for the input code 02
10 kΩ min. at power loss
•**Input code 0 (Not CE)**
 Voltage range: -300 – +300 V DC
 Minimum span: 100 mV
 Offset: Max. 1.5 times span
•**Input code 01 (CE)**
 Voltage range: -70 – +70 V DC
 Minimum span: 100 mV
 Offset: Max. 1.5 times span
•**Input code 02 (Not CE)**
 Voltage range: -100 – +100 mV DC
 Minimum span: 5 mV
 Offset: Max. 1.5 times span

OUTPUT SPECIFICATIONS

■ **DC Current**: 0 – 20 mA DC
Minimum span: 1 mA
Offset: Max. 1.5 times span
Load resistance: Output drive 11 V max.
■ **DC Voltage**: -10 – +12 V DC
Spans: Min. 5 mV, max. 20 V
Offset: Max. 1.5 times span
Load resistance: Output drive 10 mA max.; 5 mA for negative voltage output; at ≥ 0.5 V

INSTALLATION

 Power Consumption
 •**AC**:
 Approx. 4 VA at 100 V
 Approx. 5 VA at 200 V
 Approx. 6 VA at 264 V
 •**DC**: Approx. 3 W
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 0 to 90 %RH (non-condensing)
Mounting: DIN rail
Weight: 130 g (0.29 lb)

PERFORMANCE in percentage of span

Accuracy: ±0.1 %
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength:
2000 V AC @1 minute (input to output 1 or output 2 to power to ground)
1000 V AC @1 minute (output 1 to output 2)

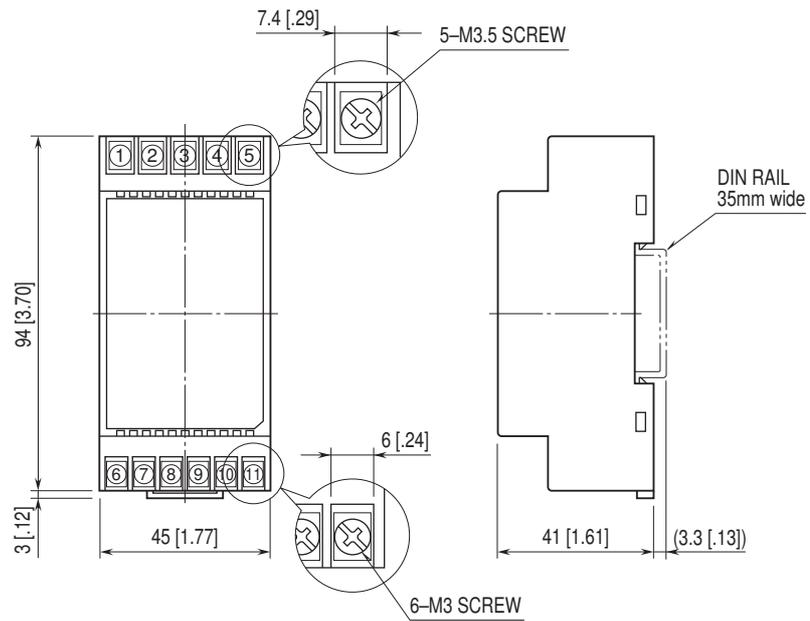## STANDARDS & APPROVALS

EU conformity:
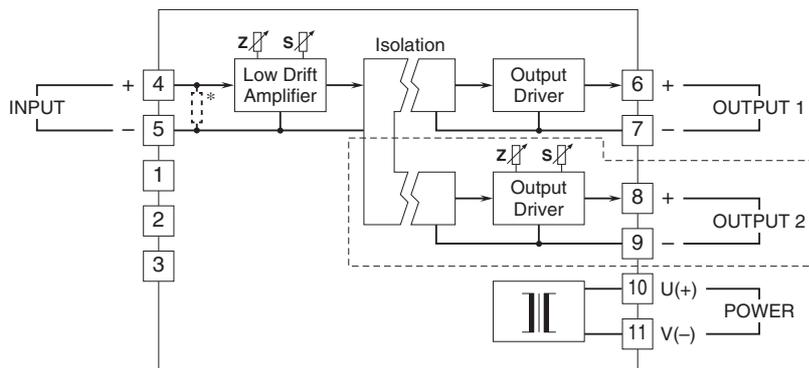EMC Directive
 EMI EN 61000-6-4
 EMS EN 61000-6-2
RoHS Directive

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EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS   unit: mm [inch]

7.4 [.29]

5–M3.5 SCREW

94 [3.70]

DIN RAIL
35mm wide

6 [.24]

3 [.12]

45 [1.77]

41 [1.61]

(3.3 [.13])

6–M3 SCREW

• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

z s

Isolation

INPUT

+ 4

Low Drift
Amplifier

Output
Driver

6 +

OUTPUT 1

– 5

7 –

1

z s

2

Output
Driver

8 +

OUTPUT 2

3

9 –

10 U(+)

POWER

11 V(–)

*Input shunt resistor attached for current input.
Note 1: The section enclosed by broken line is only with 2nd output option.
Note 2: DO NOT connect to the terminals 1 – 2 – 3.

⚠ Specifications are subject to change without notice.