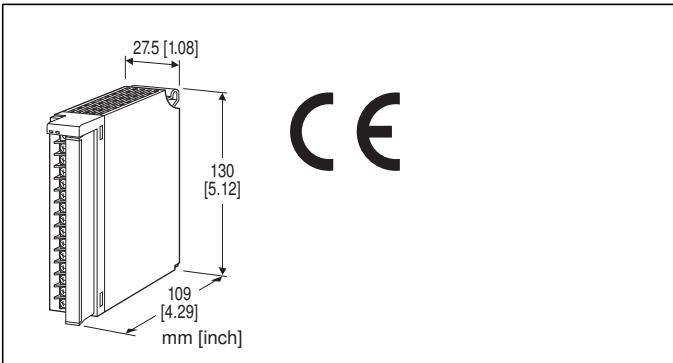


## Remote I/O R3 Series

### DC VOLTAGE INPUT ALARM MODULE

(8 points, isolated)



### MODEL: R3-AV8[1][2]

#### ORDERING INFORMATION

- Code number: R3-AV8[1][2]
- Specify a code from below for each of [1] and [2].  
(e.g. R3-AV8W/CE/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

#### NO. OF CHANNELS

8: 8

#### [1] COMMUNICATION MODE

S: Single  
W: Dual

#### [2] OPTIONS (multiple selections)

Standards & Approvals  
**blank:** Without CE  
**/CE:** CE marking  
 Other Options  
**blank:** none  
**/Q:** Option other than the above (specify the specification)

#### SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to our web site.)  
**/C01:** Silicone coating  
**/C02:** Polyurethane coating  
**/C03:** Rubber coating

#### CAUTION

##### ■ UNUSED INPUT CHANNELS

Set the unused channels to the ranges other than 1 - 5 V. Otherwise, set them as "Unused" with PC Configurator software: R3CON. Unused channels left open with 1 - 5 V setting are equal to the input lower than -15 %, which sets a data abnormality at the PLC or the host device. Open circuit with the input range set to  $\pm 10$  V means 50 % of the full-scale. An alarm setpoint must be set to a value that does not trip an unwanted alarm.

#### GENERAL SPECIFICATIONS

##### Connection

**Internal bus:** Via the Installation Base (model: R3-BSx)  
**Input:** M3 separable screw terminal (torque 0.5 N·m)  
**Internal power:** Via the Installation Base (model: R3-BSx)  
**Screw terminal:** Nickel-plated steel  
**Isolation:** Input 1 to input 2 to input 3 to input 4 to input 5 to input 6 to input 7 to input 8 to internal bus or internal power  
**Input range:** Selectable with the side DIP SW (per 4 channels)  
**Conversion rate:** Selectable with the side DIP SW  
**RUN indicator:** Bi-color (red/green) LED;  
 Red when the bus A operates normally;  
 Green when the bus B operates normally;  
 Amber when both buses operate normally.  
**ERR indicator:** Bi-color (red/green) LED;  
 Red with input circuit abnormality (AD converter response failure);  
 Green in normal operating conditions.

#### INPUT SPECIFICATIONS

■ **Narrow Span:** -1 - +1 V, 0 - 1 V DC  
**Input resistance:** 100 k $\Omega$  min.  
 ■ **Wide Span:** -10 - +10 V, -5 - +5 V,  
 0 - 10 V, 0 - 5 V, 1 - 5 V DC  
**Input resistance:** 1 M $\Omega$  min.

#### INSTALLATION

**Operating temperature:** -10 to +55°C (14 to 131°F)  
**Operating humidity:** 30 to 90 %RH (non-condensing)  
**Atmosphere:** No corrosive gas or heavy dust  
**Mounting:** Installation Base (model: R3-BSx)  
**Weight:** 250 g (0.55 lb)

## PERFORMANCE

**Conversion accuracy:** Refer to the table at the end of this section.

**Conversion rate:** 160 / 80 / 40 / 20 msec. selectable

**Data range:** 0 - 10000 of the input range

**Data allocation:** 4

**Current consumption:** 100 mA

**Temp. coefficient:**  $\pm 0.015\% / ^\circ\text{C}$  ( $\pm 0.008\% / ^\circ\text{F}$ )  
( $\pm 0.03\% / ^\circ\text{C}$  [ $\pm 0.02\% / ^\circ\text{F}$ ] with 0 - 5 V or 1 - 5 V range)

**Insulation resistance:**  $\geq 100\text{ M}\Omega$  with 500 V DC

**Dielectric strength:** 1000 V AC @ 1 minute (input 1 to input 2 to input 3 to input 4 to input 5 to input 6 to input 7 to input 8 to internal bus or internal power)

2000 V AC @ 1 minute (power input to FG; isolated on the power supply module)

### Conversion accuracy

RANGE \ RATE	160 msec.	80 msec.	40 msec.	20 msec.
All ranges	$\pm 0.1\%$	$\pm 0.2\%$	$\pm 0.4\%$	$\pm 0.8\%$

## STANDARDS & APPROVALS

### EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

## ALARM SETTING

The following parameters are programmable using the PC Configurator Software (model: R3CON).

■**ALARM TRIP POINT** (-15.00 to +115.00 %; factory set to A1: 80.00, A2: 60.00, A3: 40.00, A4: 20.00)  
Four alarm setpoints are selectable per each input.

### ■ALARM TYPE

(High or Low; factory set to A1: High, A2: High, A3: Low, A4: Low)

High or Low alarm is selectable for each alarm trip point.

**High alarm:** An alarm is set when the input signal goes above the setpoint.

**Low alarm:** An alarm is set when the input signal goes below the setpoint.

### ■DEADBAND (HYSTERESIS)

(0.00 to 100.00 %; factory set to 5.00)

Deadband (deviation between the points where the alarm is set and reset) is selectable for each alarm trip point.

### ■ALARM ON DELAY TIME

(0.0 to 99.0 seconds; factory set to 1.0)

The alarm output is set when the preset time elapses after the input has entered in the alarm range.

This setting is common to all 8 points.

### ■POWER ON DELAY TIME

(0.0 to 99.0 seconds; factory set to 5.0)

The alarm output start functioning in the preset time after the power has been turned on.

This setting is common to all 8 points.

### ■ALARM HOLD TIME

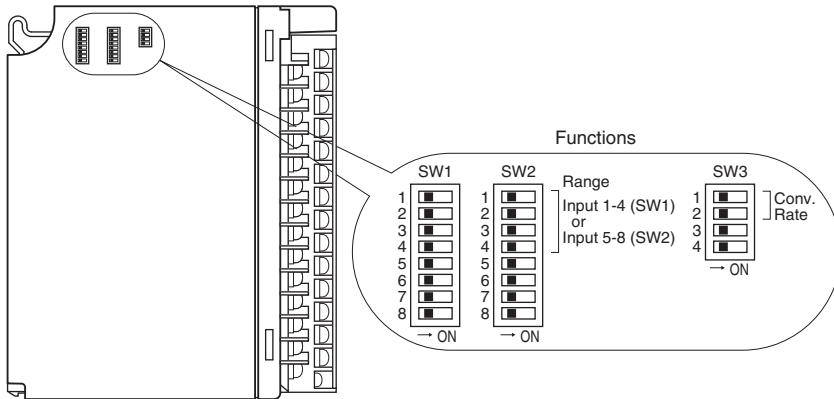
(0.0 to 99.0 seconds; factory set to 1.0)

The alarm output is held for the preset time even if it is reset in shorter time.

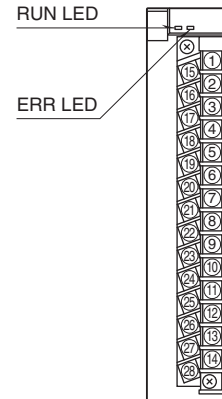
This setting is common to all 8 points.

## EXTERNAL VIEW

### ■ SIDE VIEW

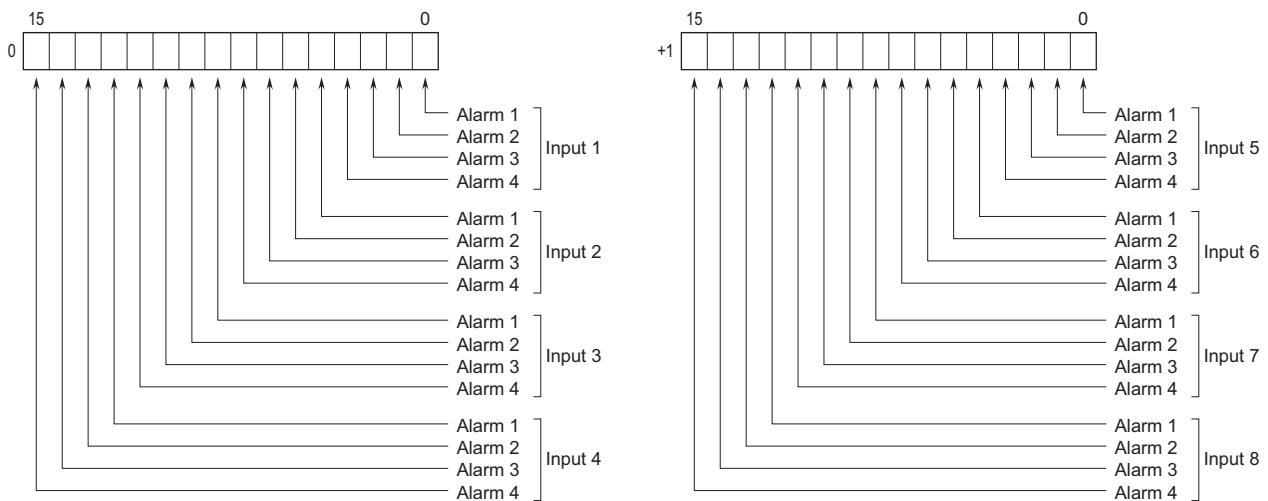


### ■ FRONT VIEW

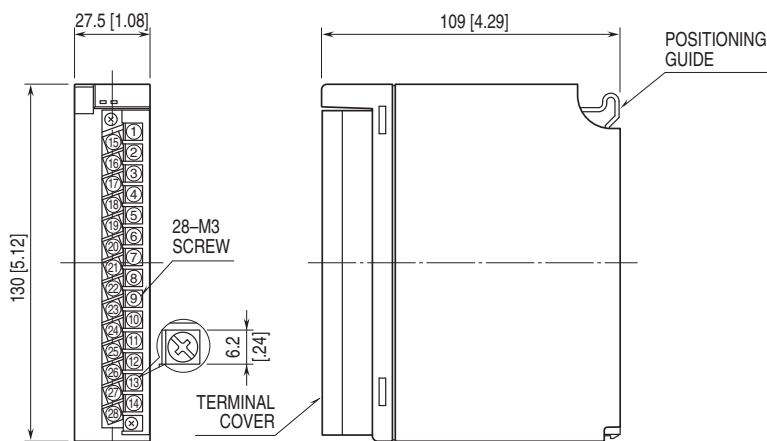


## OUTPUT DATA DESCRIPTIONS

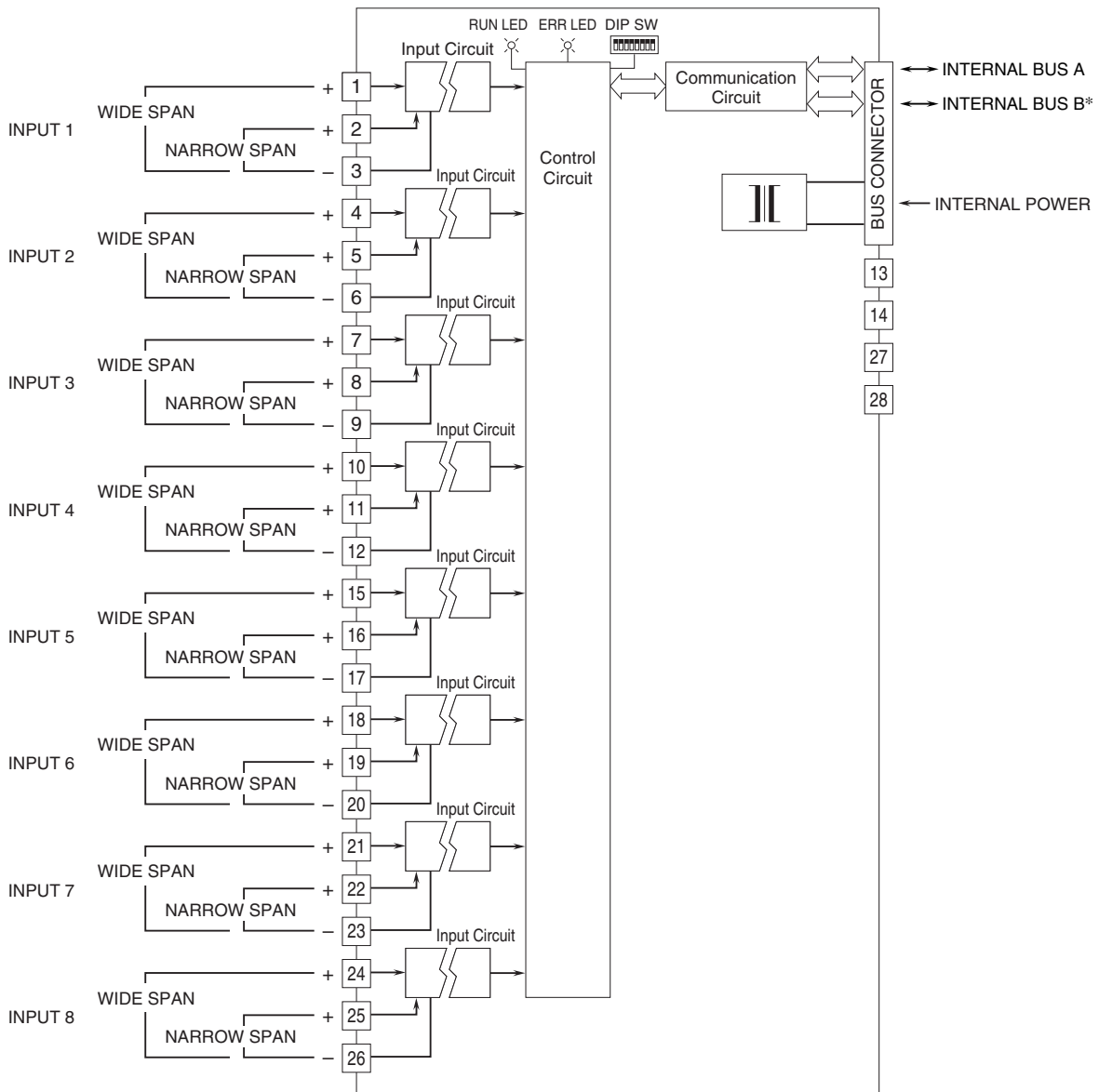
Four alarm setpoints are selectable per each input. Two (2) word (16 bits × 2) data is transmitted to the PLC or the host device via the R3 network module.



## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



\* For dual redundant communication.  
 Note: Connect either wide or narrow span terminals for each channel.



Specifications are subject to change without notice.