R2K Series

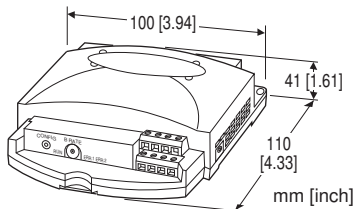### RS-232-C/RS-485 CONVERTER

Functions & Features

• Bidirectional converter between RS-232-C and RS-485 used when connecting Modbus RS-485 devices to a PC

100 [3.94]
41 [1.61]
110 [4.33]
mm [inch]

MODEL: R2K-1-[1]

ORDERING INFORMATION

• Code number: R2K-1-R
Consult Factory for AC power input.

[1] POWER INPUT

DC Power
R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

GENERAL SPECIFICATIONS

Connection
  RS-232-C: 9-pin D-sub connector (male, lock screw No. 4-40 UNC); A 'Straight' type cable connecting to the PC is to be prepared by the user.
  RS-485, power input: Euro type connector terminal
Isolation: RS-232-C to RS-485 or power
Data, parity & stop bit setting: DIP switches at the bottom
Baud rate setting: Front rotary switch
RUN indicator LED: Green light blinks in normal conditions.
ERR.1 indicator: Red LED blinks with RS-232-C overrun error; ON with parity framing error.
ERR.2 indicator: Red LED blinks with RS-485 overrun error; ON with parity framing error.

COMMUNICATION

Baud rate: 300, 600, 1200, 2400, 4800, 9600, 14.4 k, 19.2 k, 28.8 k, 38.4 k, 57.6 k, 76.8 k (bps)
Data bit: 7 or 8 bits
Parity: Odd, even or none
Stop bit: 1 or 2 bits
Communication: Half-duplex, asynchronous, no procedure
Data delay time: 300 microseconds
■ RS-232-C

Standard: Conforms to RS-232-C, EIA
Transmission distance: 10 meters max.
■ RS-485
Standard: Conforms to TIA/EIA–485–A
Transmission distance: 500 meters max.
Transmission media: Shielded twisted-pair cable (CPEV-S 0.9 dia.)

INSTALLATION

Power consumption
•**DC**: Approx. 2 W
Operating temperature: -5 to +60°C (23 to 140°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 150 g (0.33 lb)

PERFORMANCE

Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 500 V AC @ 1 minute
(RS-232-C to RS-485 or power)

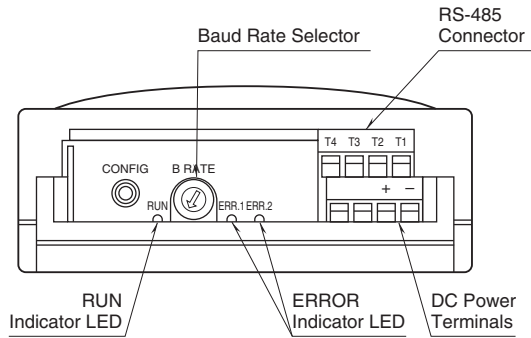## STANDARDS & APPROVALS

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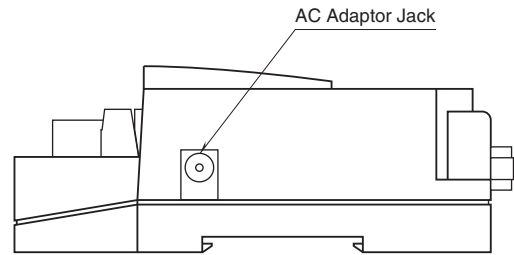EMC Directive
  EMI EN 61000-6-4
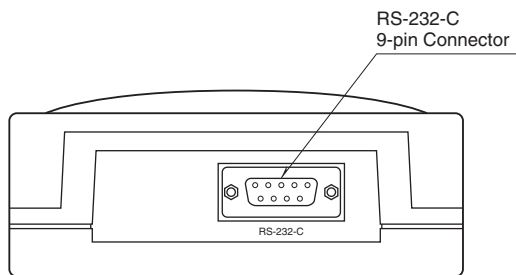 EMS EN 61000-6-2
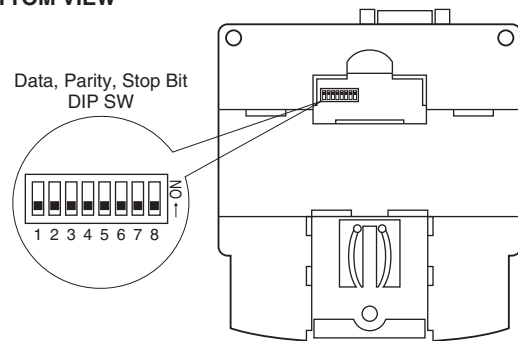RoHS Directive

EXTERNAL VIEW

■ FRONT VIEW

Baud Rate Selector

RS-485 Connector

CONFIG   B RATE

T4 T3 T2 T1

+   −

RUN   ERR.1 ERR.2

RUN Indicator LED

ERROR Indicator LED

DC Power Terminals

■ SIDE VIEW

AC Adaptor Jack

■ REAR VIEW

RS-232-C 9-pin Connector

RS-232-C

■ BOTTOM VIEW

Data, Parity, Stop Bit DIP SW

ON

1 2 3 4 5 6 7 8

■ RS-232-C INTERFACE

1   5
6   9

ABBR.	PIN NO.	EXPLANATION OF FUNCTION
BA (SD)	2	Transmitted Data
BB (RD)	3	Received Data
AB (SG)	5	Signal Common
CB (CS)	7	Clear to Send
CA (RS)	8	Request to Send
	1	Not Used.
	4	DO NOT connect. Connecting may
	6	cause malfunctions.
	9	

EXTERNAL DIMENSIONS unit: mm [inch]

100 [3.94]
90 [3.54]
3–5 [.20] dia. MTG HOLES
5 [.20]
105 [4.13]
104 [4.09]
13 [0.51]
92 [3.62]
FOR WALL MOUNT.

15.5 [.61]
46 [1.81]
DIN RAIL 35 mm wide
3 [.12]
41 [1.61]
(6 [.24])
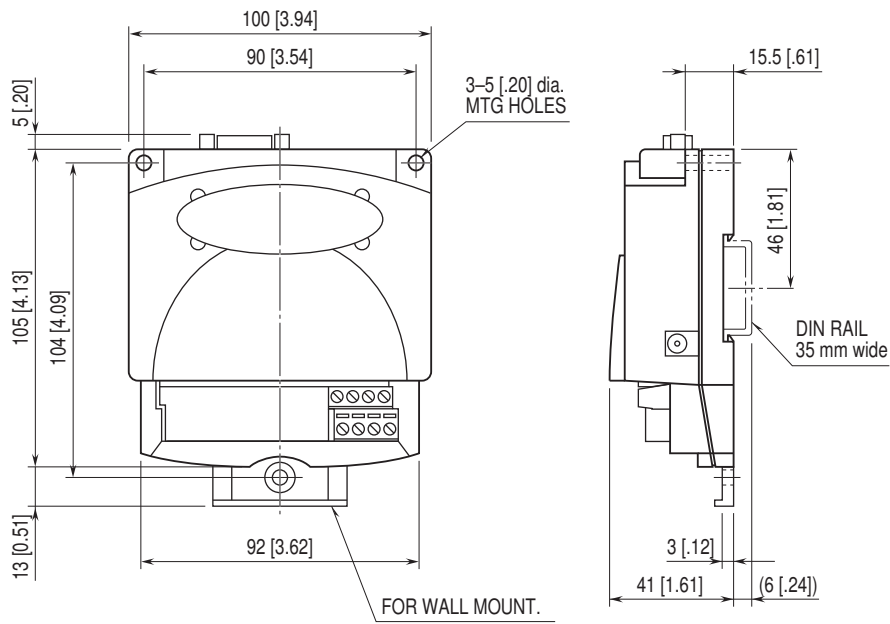
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

Shielded Twisted-pair Cable
To Other RS-485 Devices
Jumper*
DC POWER
AC Adaptor

T1
T2
T3
T4
+
−

Term. Resist.

RS-485 Driver

Isolation

LEDs
DIP SW

Controller

RS-232-C

D-SUB CONNECTOR

RS-232-C

SG2

BAUD RATE ROTARY SW

SG

SG
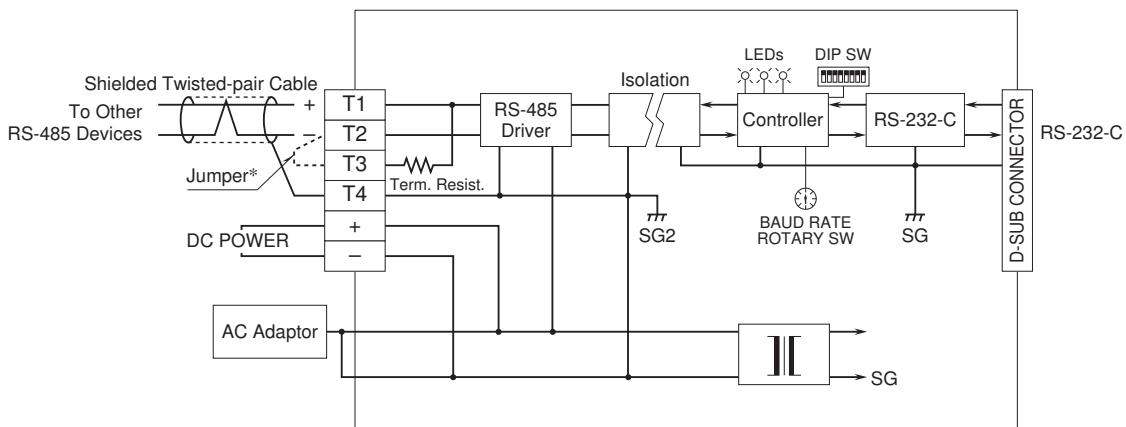
*When the device is located at the end of a transmission line via RS-485,
 close across the terminal T2 –T3 with the attached jumper pin (or with a leadwire).
Note: RS-485 and power terminals are not isolated from each other.
Use of M-System's lightning surge protectors is recommended for protecting the
device from induced surges.

⚠ Specifications are subject to change without notice.

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