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Specifications of Serial Interface COM2

Introduction

NOTE: For instructions on how to connect to other devices, always refer to the “GP-Pro EX Device/PLC Connection Manual”.

The COM2 port of GP-4601T is not isolated. The SG (signal ground) and FG (frame ground) terminals are connected inside the GP unit.

DANGER

ELECTRIC SHOCK

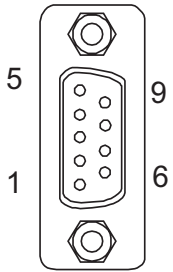
When using the SG terminal to connect an external device to the panel:

- Verify that a short-circuit loop is not created when you set up the system.
- Connect the #5 SG terminal to remote equipment when the host (PLC) unit is not isolated. Connect the #5 SG terminal to a known reliable ground connection to reduce the risk of damaging the circuit.

Failure to follow these instructions will result in death or serious injury.

Serial Interface COM2

GP-4601T: D-Sub 9 pin plug connector via an RS-422/485 cable.

Pin Connection	Pin No.	RS-422/RS-485		
		Signal Name	Direction	Meaning
 (GP unit side)	1	RDA	Input	Receive Data A (+)
	2	RDB	Input	Receive Data B (-)
	3	SDA	Output	Send Data A (+)
	4	ERA	Output	Data Terminal Ready A (+)
	5	SG	-	Signal Ground
	6	CSB	Input	Send Possible B (-)
	7	SDB	Output	Send Data B (-)
	8	CSA	Input	Send Possible A (+)
	9	ERB	Output	Data Terminal Ready B (-)
	Shell	FG	-	Frame Ground (Common with SG)

Interfit bracket is #4-40 (UNC).

Recommendations:

- Cable Connector: XM2D-0901 manufactured by OMRON Corporation.
- Cable Cover: XM2S-0913 manufactured by OMRON Corporation.
- Jack Screw (#4-40 UNC): XM2Z-0073 manufactured by OMRON Corporation.

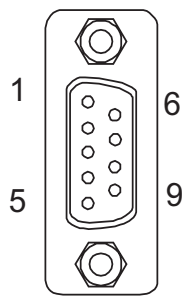
⚠ CAUTION

LOSS OF COMMUNICATION

- All connections to the communication ports must not put excessive stress on the ports.
- Securely attach communication cables to the panel wall or cabinet.
- Use only D-Sub 9 pin cables with a locking tab in good condition.

Failure to follow these instructions can result in injury or equipment damage.

GP-4603T: D-Sub 9 pin socket connector via an RS-485, PROFIBUS, or MPI cable.

Pin Connection	Pin No.	RS-485 (isolation)		
		Signal Name	Direction	Meaning
 <p>(GP unit side)</p>	1	NC	-	no connection
	2	NC	-	no connection
	3	Line A	Input/Output	Data A (+)
	4	RS(RTS)	Output	Request to Send
	5	SG	-	Signal Ground
	6	VCC	-	+5V±5% External Output ^{*1}
	7	NC	-	no connection
	8	Line B	Input/Output	Data B (-)
	9	NC	-	no connection
	Shell	FG	-	Frame Ground ^{*2} (No connection with SG)

NOTE: ^{*1} You can supply power to the Siemens PROFIBUS connector only. You cannot supply power to the device/PLC.

^{*2} The SG and FG terminals are isolated.

Interfit bracket is #4-40 (UNC).

Recommendations:

- Cable Connector: XM2A-0901 manufactured by OMRON Corporation.
- Cable Cover: XM2S-0913 manufactured by OMRON Corporation.
- Jack Screw (#4-40 UNC): XM2Z-0073 manufactured by OMRON Corporation.

⚠ CAUTION

LOSS OF COMMUNICATION

- All connections to the communication ports must not put excessive stress on the ports.
- Securely attach communication cables to the panel wall or cabinet.
- Use only D-Sub 9 pin cables with a locking tab in good condition.

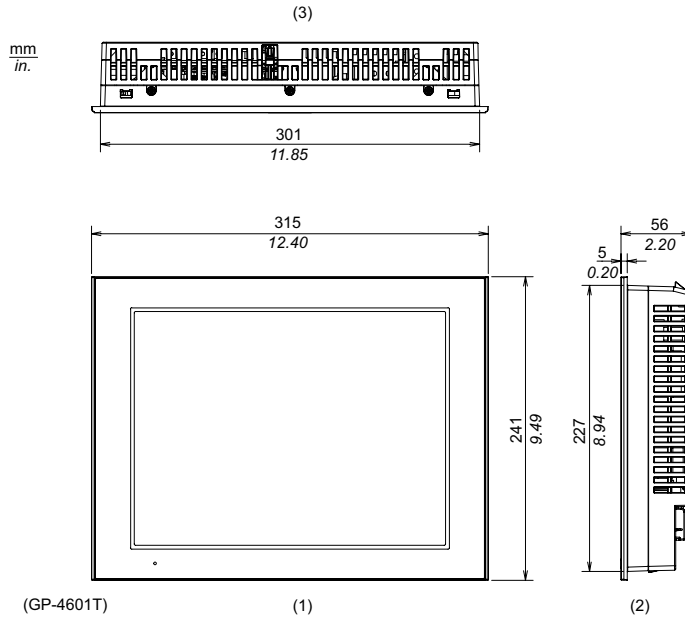
Failure to follow these instructions can result in injury or equipment damage.

Dimensions

NOTE:

- If you are using the rear mount model, refer to Dimensions (see page 184).

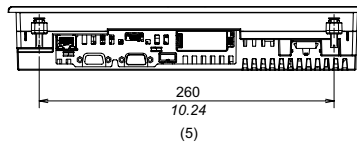
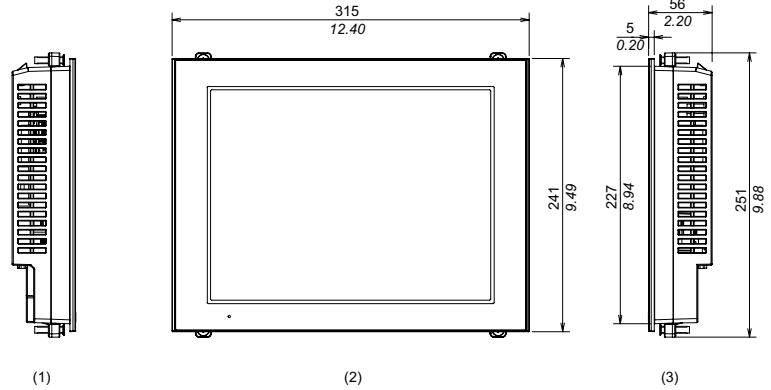
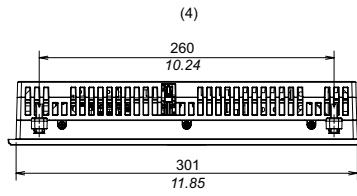
External Dimensions



- 1 Front
- 2 Right Side
- 3 Top

Installation with Installation Fasteners

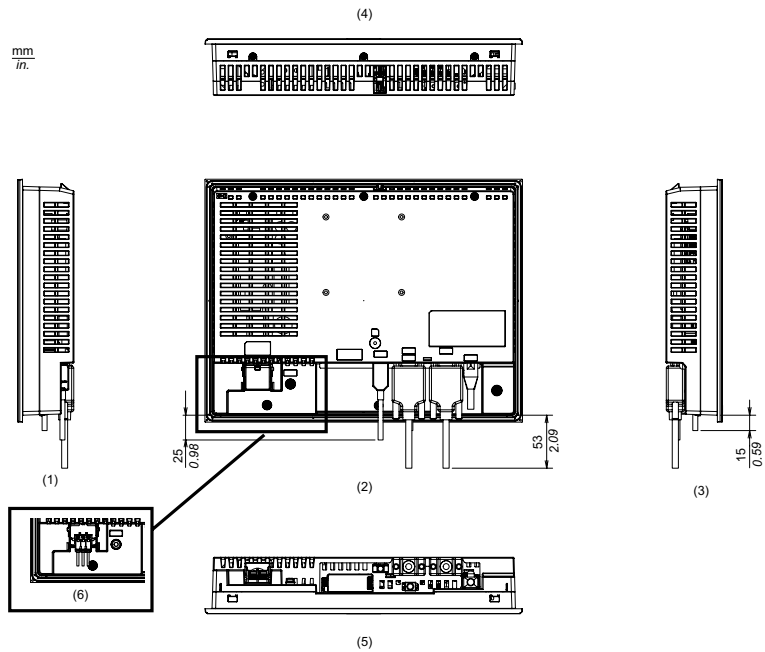
mm
in.



(GP-4601T)

- 1 Left Side
- 2 Front
- 3 Right Side
- 4 Top
- 5 Bottom

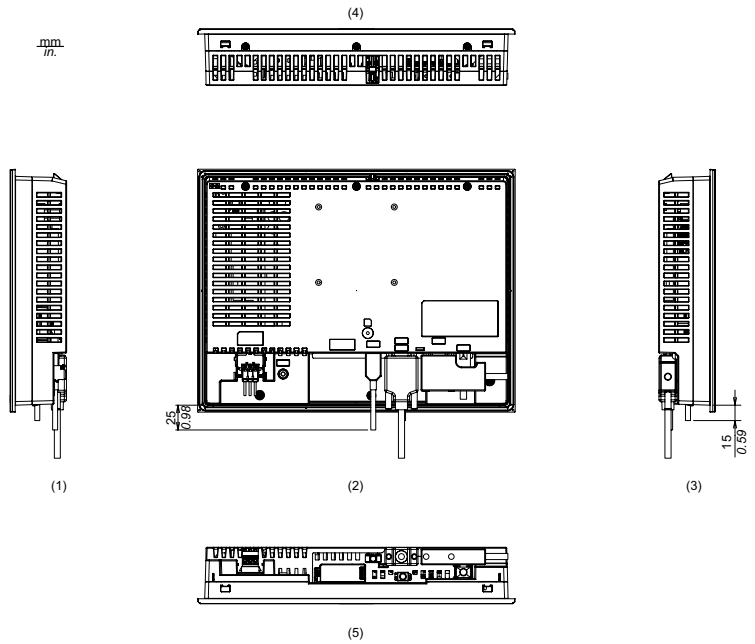
Dimensions with Cables: GP-4601T



- 1 Left Side
- 2 Rear
- 3 Right Side
- 4 Top
- 5 Bottom
- 6 DC type units have power supply terminals

NOTE: All the above values are designed with cable bending in mind. The dimensions given here are representative values depending on the type of connection cable in use. Therefore, these values are intended for reference only.

Dimensions with Cables: GP-4603T

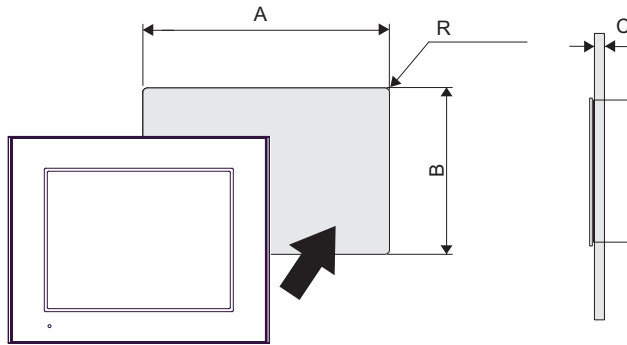


- 1 Left Side
- 2 Rear
- 3 Right Side
- 4 Top
- 5 Bottom

NOTE: All the above values are designed with cable bending in mind. The dimensions given here are representative values depending on the type of connection cable in use. Therefore, these values are intended for reference only.

Panel Cut Dimensions

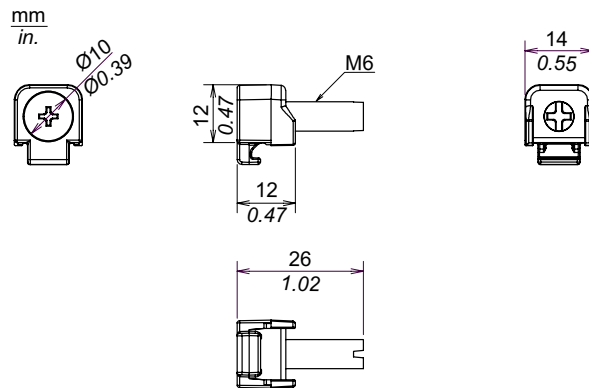
Create a panel cut and insert the GP unit into the opening from the front.



A	B	C	R
301.5 mm (+1, -0 mm) (11.87 [+0.04, -0 in.])	227.5 mm (+1, -0 mm) (8.96 in. [+0.04, -0 in.])	1.6...5 mm (0.06...0.2 in.)	3 mm (0.12 in.) maximum

NOTE: Before designing the panel cut, refer to Installation (see page 136).

Installation Fastener Dimensions



Installation and Wiring



5

What Is in This Chapter?

This chapter contains the following sections:

Section	Topic	Page
5.1	Installation	136
5.2	Wiring Principles	141
5.3	SD Card Insertion/Removal	150
5.4	USB Cable Clamp	157

5.1 Installation

NOTE:

- If you are using the rear mount model, refer to Installation (see page 220).

Installation Procedures

Introduction

The installation fasteners are required when installing the GP unit.

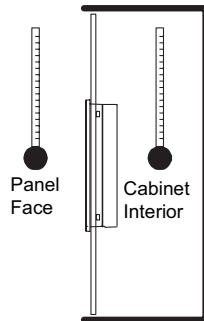
Mount the GP unit in an enclosure that provides a clean, dry, robust and controlled environment. (IP65, Type 1, Type 4X [Indoor Use Only] or Type 13 Enclosure.)

Installation Requirements

Check that the installation wall or cabinet's surface is flat, in good condition and has no jagged edges. Metal reinforcing strips may be attached to the inside of the wall, near the panel-cut, to increase its rigidity.

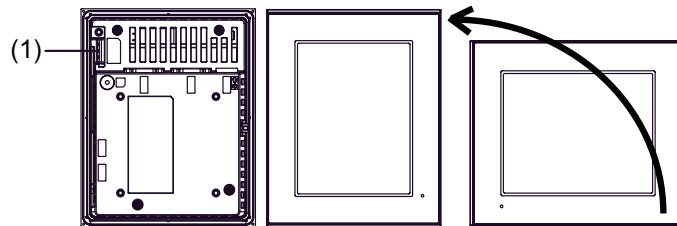
Decide on the thickness of the enclosure wall, based on the level of strength required: 1.6...5 mm (0.06...0.2 in.).

Be sure that the surrounding air temperature and the ambient humidity are within their designated ranges. Surrounding air temperature: 0 to 50 °C (32 to 122 °F) or 0 to 55 °C (32 to 131 °F) (please see the Environment Specifications for your GP unit); ambient humidity: 10 to 90%RH; wet bulb temperature: maximum 39 °C [102 °F]. When installing the GP unit in a cabinet or enclosure, the surrounding air temperature is the cabinet's or enclosure's internal temperature.



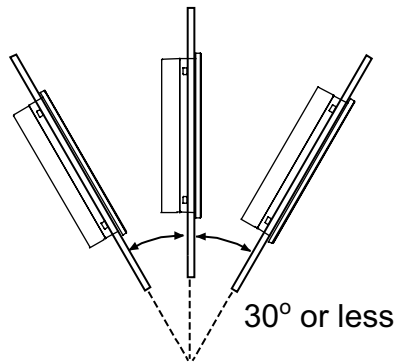
Be sure that heat from surrounding equipment does not cause the GP unit to exceed its standard operating temperature.

When mounting the GP unit vertically, ensure that the right side of the unit faces up. In other words, the power connector for DC model, power terminal block for AC model, should be at the top.



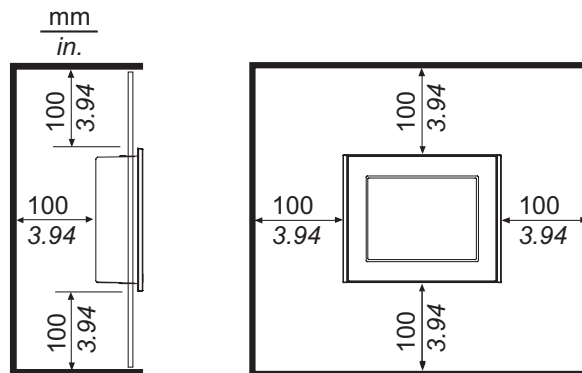
1 Power connector or power terminal block

When installing the GP unit in a slanted position, the GP unit face should not incline more than 30°.



When installing the GP unit in a slanted position with an incline more than 30°, the ambient temperature must not exceed 40 °C (104 °F). You may need to use forced air cooling (fan, A/C) to ensure the ambient operating temperature is 40°C or less (104 °F or less).

For easier maintenance, operation and improved ventilation, install the GP unit at least 100 mm (3.94 in.) away from adjacent structures and other equipment as shown in the following illustration:



The holes on the rear of the GP unit (except GP-4200 Series) do not correspond to VESA 75 mm standards. Do not attach the GP unit to a commercial-type VESA arm.

Panel Mounting Procedure

NOTICE

PANEL UNSTEADY WHEN UNSECURED

Keep GP unit stabilized in the panel-cut while you are installing or removing the screw fasteners.

Failure to follow these instructions can result in equipment damage.