GP2000H Series Special Purpose RS-422 Dsub Cable (GP2000H-D422-3M/GP2000H-D422-10M) Installation Guide

Thank you for purchasing Pro-face's GP2000H Series Special Purpose RS-422 Dsub Cable, hereafter referred to as the "cable"

This product is designed to provide an RS-422 type connection to an External Device/ PLC.

Please confirm that the following items are included in the cable's package.

- Installation Guide (This manual)
- GP2000H Series Special Purpose RS-422 Dsub Cable (length: 3M or 10M)

Prior to using this cable, please be sure to read this manual completely.

Safety Precautions

⚠ WARNINGS

- Prior to connecting the cable, check that the GP2000H's power supply is completely turned OFF to prevent an electric shock.
- Do not modify the cable, since it may lead to a fire or electric shock.
- This cable is not appropriate for use with aircraft control devices, aerospace equipment, central trunk data transmission (communication) devices, nuclear power control devices, or medical life support equipment, due to these devices inherent requirements of extremely high levels of safety and reliability.
- When using this cable with transportation vehicles (trains, cars and ships), disaster and crime prevention devices, various types of safety equipment, non-life support related medical devices, etc. redundant and/or failsafe system designs should be used to ensure the proper degree of reliability and safety.

- *Since the GP2000H unit's cable combines power and signal wires, there is a possibility of excessive noise effecting the unit's communication with the External Device/PLC. To reduce the chance of this occurring, be sure to attach noise reduction devices to the External Device/PLC.*

- *This cable is designed only for use with the GP2000H Series operator interfaces. It cannot be used with any other Pro-face units.*

- **If this cable is connected to Digital's GP2000H Series RS-422 Conversion Adapter (separately sold), the Conversion Adapter's terminal block can be used to connect a PLC or for other wiring (for external output or for power).**
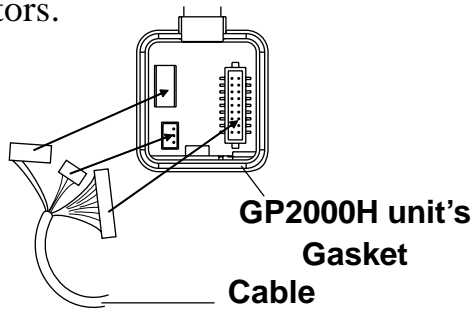
  Conversion Adapter Model No.:GP2000H-AP422
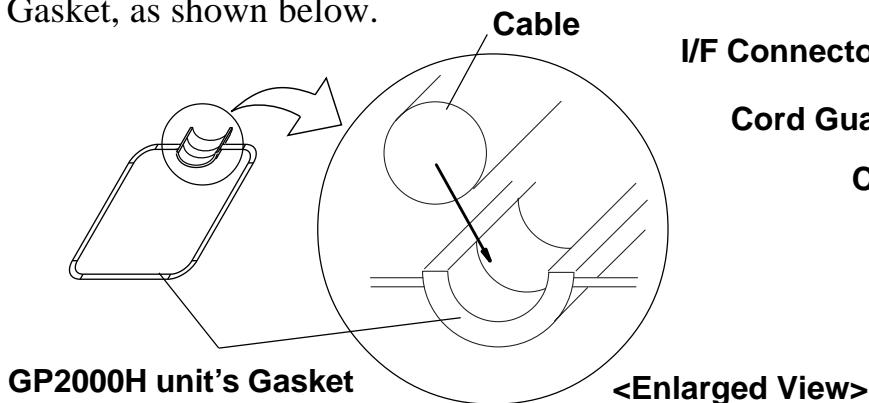
<Wiring the RS-422 Dsub Cable>

Be sure to confirm the power supply is OFF prior to attaching this cable.
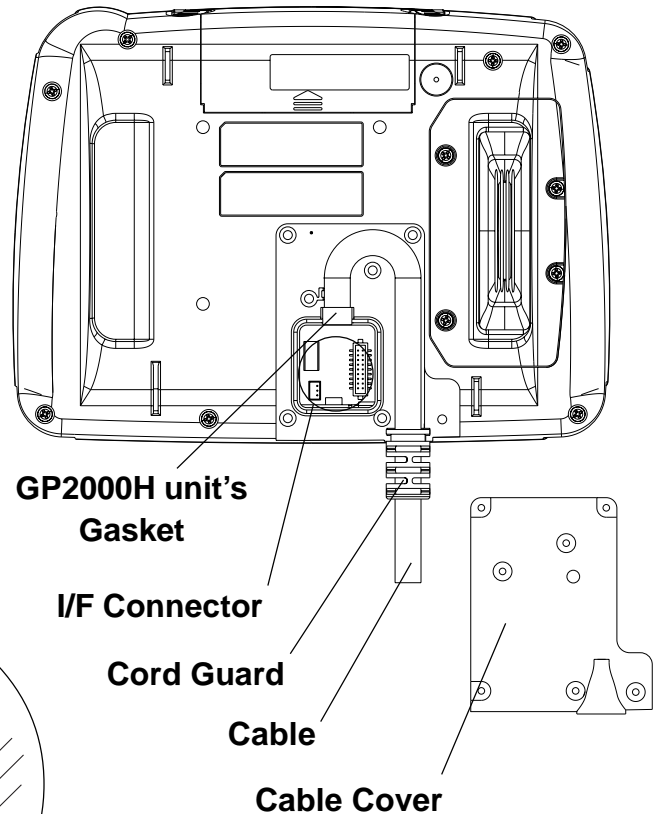
1) Unscrew the GP2000H unit's seven (7) rear face attachment screws and remove the Cable Cover.

<GP2000H unit's Rear Face>

2) Connect this cable's three (3) connectors to the corresponding GP2000H I/F connectors.

GP2000H unit's
Gasket
Cable

3) Attach the GP2000H unit's Installation Gasket, as shown below.

Cable

GP2000H unit's
Gasket

I/F Connector

Cord Guard

Cable

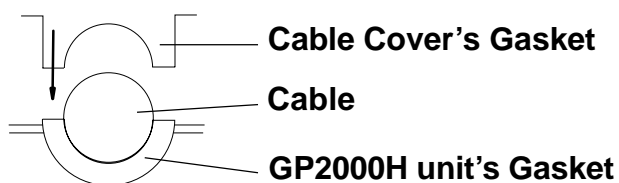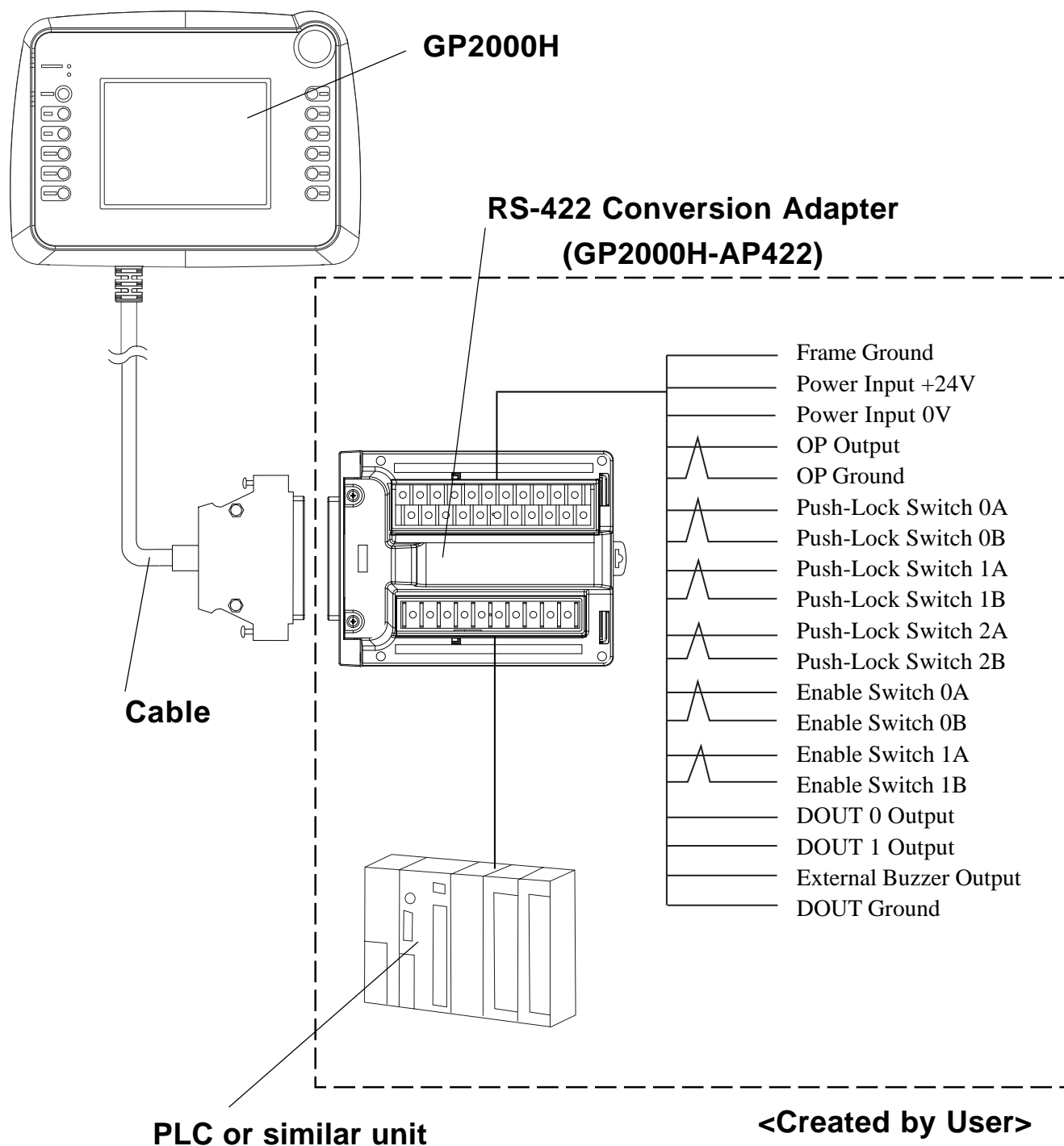**Cable Cover**

GP2000H unit's Gasket

<Enlarged View>

4) Bend the cable to fit the GP2000H unit's cable channel, and adjust the cord guard so that it fits securely into the GP2000H plastic case's notch. (see above)

5) Replace the Cable Cover and secure all seven (7) attachment screws in place.
Recommended screw torque is 0.5 to 0.6N•m.
Be sure the Installation Gasket is fitted securely around the cable, as shown below.

Cable Cover's Gasket

Cable

GP2000H unit's Gasket

⚠️ *Important*   ***Be sure the Installation Gasket and the Cable Cover are both securely attached. If they are not, the unit's specified protection level cannot be guaranteed.***

<Cable Connection Example>

GP2000H

RS-422 Conversion Adapter
(GP2000H-AP422)

Frame Ground
Power Input +24V
Power Input 0V
OP Output
OP Ground
Push-Lock Switch 0A
Push-Lock Switch 0B
Push-Lock Switch 1A
Push-Lock Switch 1B
Push-Lock Switch 2A
Push-Lock Switch 2B
Enable Switch 0A
Enable Switch 0B
Enable Switch 1A
Enable Switch 1B
DOUT 0 Output
DOUT 1 Output
External Buzzer Output
DOUT Ground

Cable

PLC or similar unit

<Created by User>

<Cable Connection Information>

Dsub 37-pin Connector Data

Pin No.	Signal Name	Description
1	FG	Frame Ground
2	FG	Frame Ground
3	NC	Not Connected
4	ERB	Enable Receive B
5	CSB	Clear to Send B
6	+5V	DC +5V±5% Output 0.25A (from GP2000H)[1]
7	SDB	Send Data B
8	RDB	Receive Data B
9	NC	Not Connected
10	RESERVE	Reserved[2]
11	RESERVE	Reserved[2]
12	OP.GND	OP Ground
13	DOUT.GND	DOUT Ground[3]
14	EMG0B	Push-Lock Switch 0B (Operates like A contact)
15	EMG1B	Push-Lock Switch 1B (B contact)
16	EMG2B	Push-Lock Switch 2B (B contact)
17	ENB0B	Enable Switch 0B (A contact)
18	ENB1B	Enable Switch 1B (A contact)[4]
19	0V	Power Input 0V
20	FG	Frame Ground
21	NC	Not Connected
22	NC	Not Connected
23	ERA	Enable Receive A
24	CSA	Clear to Send A
25	SG	Signal Ground
26	SDA	Send Data A
27	RDA	Receive Data A
28	DOUT0.C	DOUT 0 Output
29	DOUT1.C	DOUT 1 Output
30	OP.C	OP Output
31	BUZZ OUT	External Buzzer Output
32	EMG0A	Push-Lock Switch 0A (Operates like A contact)
33	EMG1A	Push-Lock Switch 1A (B contact)
34	EMG2A	Push-Lock Switch 2A (B contact)
35	ENB0A	Enable Switch 0A (A contact)
36	ENB1A	Enable Switch 1A (A contact)[4]
37	+24V	Power Input +24V (to GP2000H)

*1　When connected to the GP2000H, the power used should be a maximum of 0.25A. Be sure to not exceed this level.

*2   Pins #10 and #11 are reserved. Be sure to not connect anything to these pins.

*3   The DOUT Ground is used in common with External Buzzer Output (BUZZ OUT), DOUT 0 (Zero) Output (DOUT0.C), and DOUT 1 (One) Output (DOUT1.C).

*4   Disabled when "GP-H70 compatible mode" (set via GP2000H) is used.

Connector Type   : Dsub 37-pin plug XM2A-3701 <made by OMRON Corp.>

Cover Type   : Dsub 37-pin cover XM2S-3711 <made by OMRON Corp.>

Important

- *Pin #6 DC+5V Output is not protected. To prevent damage or unit malfunction, use only the designated level of current.*

  Also, when this pin is not used, be sure that it does not contact any other wires or metal. If touched, a short could occur that could cause the GP2000H to break down or malfunction.

- *Be sure to connect Pin #25 (SG) to the SG terminal of your Host (External Device/PLC). If this is not done, the GP2000H circuit may be damaged.*

Note:

- **The GP2000H series RS-422 conversion adapter (GP2000H-AP422) can be connected to this cable.**

Note

Please be aware that Digital Electronics Corporation shall not be held liable by the user for any damages, losses, or third party claims arising from the uses of this product.

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