proconX
Professional Fieldbus Connections

ESEPRO
PROFIBUS gateway for CANopen genset controls

Quick start reference guide

⚠ This document is a reference guide only and must be used in conjunction with the ESEPRO *User manual*.

IGESEPRO-1301

SAFETY PRECAUTIONS

☢ **ELECTRICAL HAZARD**

- This equipment must be installed and serviced only by qualified personnel. Such work should be performed only after reading the ESEPRO *User manual* in its entirety.
- Before performing visual inspections, tests, or maintenance on this equipment, disconnect all sources of electric power. Assume that all circuits are live until they have been completely de-energized, tested, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of backfeeding.
- Apply appropriate personal protective equipment and follow safe electrical practices.
- Turn off all power supplying the equipment in which the ESEPRO is to be installed before installing, wiring or removing the ESEPRO.
- Always use a properly rated voltage sensing device to confirm that power is off.
- The successful operation of this equipment depends upon proper handling, installation, and operation. Neglecting fundamental installation requirements may lead to personal injury as well as damage to electrical equipment or other property.

Failure to follow these instructions could result in death or serious injury!

INTRODUCTION

Package Contents

- ESEPRO unit
- Quick start reference guide
- 2-pin terminal block plug

Documentation and Additional Resources

This Quick start reference guide must be used in conjunction with the ESEPRO *User manual*.

The ESEPRO *User manual* and supplemental software packages can be downloaded from the ESEPRO web site:
http://www.proconx.com/esepro

Quick start checklist

- Obtain a copy of the ESEPRO *User manual* and read it properly and in its entirety.
- Mount the unit.
- Wire Profibus plug.
- Wire CAN bus plug.
- Connect the power.
- Configure the device with a Profibus configuration tool.

DESCRIPTION

TOP VIEW

BOTTOM VIEW

FRONT VIEW

❶ Clear front cover
❷ Profibus connector
❸ Ethernet jack
❹ DIN rail clip
❺ Power LED
❻ Ethernet link LED
❼ Status 1 LED
❽ Status 2 LED
❾ Power terminals
❿ CAN bus connector

INSTALLATION

Regulatory notes

☢ 1. The ESEPRO is suitable for use in non-hazardous locations only.
2. The ESEPRO is not authorized for use in life support devices or systems.
3. Wiring and installation must be in accordance with applicable electrical codes in accordance with the authority having jurisdiction.
4. This is a Class A device and intended for commercial or industrial use. This equipment may cause radio interference if used in a residential area; in this case it is the operator's responsibility to take appropriate measures.
5. The precondition for compliance with EMC limit values is strict adherence to the guidelines specified in the ESEPRO *User manual*. This applies in particular to the area of grounding and shielding of cables.
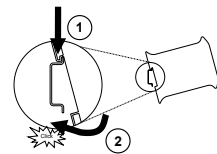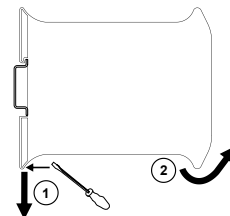
FCC Notice (USA only)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Industry Canada Notice (Canada only)

This Class A digital apparatus complies with Canadian ICES-003.
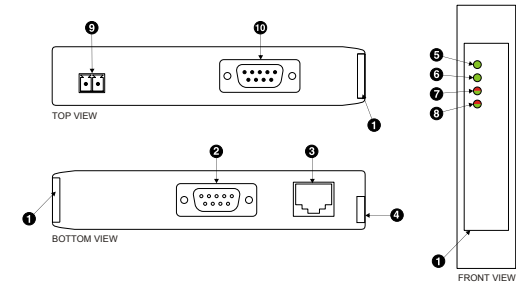
DIN rail mounting and removal

To mount the unit on a DIN rail, slot the top part of the ESEPRO into the upper guide of the rail and lower the enclosure until the bottom of the red hook clicks into place.

To remove the ESEPRO from the DIN rail, use a screw driver as a lever by inserting it in the small slot of the red hook and push the red hook downwards. Then remove the unit from the rail by raising the bottom front edge of the enclosure.

Mounting rules

⚠
- No water splash and water drops
- No aggressive gas, steam or liquids
- Avoid dusty environments.
- Avoid shock or vibration
- Do not exceed the specified operational temperatures and humidity range.
- Mount inside an electrical switchboard or control cabinet.
- Make sure there is sufficient air ventilation and clearance to other devices mounted next to the unit.
- Observe applicable local regulations like EN60204 / VDE0113.

Before connecting anything

☢ 1. Before installing or removing the unit or any connector, ensure that the system power and external supplies have been turned off.
2. Check the system supply voltage with a multimeter for correct voltage range and polarity.
3. Connect the power supply cable and switch on the system power. Check if the Power LED is lit.
4. Turn off system power.
5. Connect all I/O cables.
6. Once you are certain that all connections have been made properly, restore the power.

Power terminals pin assignment

☢ Before connecting power please follow the rules in the section called "SAFETY PRECAUTIONS" and the section called "Before connecting anything".

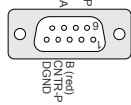|		
1	V+	Positive voltage supply (10 - 30 V DC)
2	V-	Negative voltage supply, DC power return

⚠ Make sure that the polarity of the supply voltage is correct before connecting any device to the serial and CAN ports! A wrong polarity can cause high currents on the ground plane between the V- power supply pin and the CAN port and serial port ground pins, which can cause damage to the device.
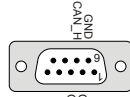
SPECIFICATIONS

Power supply	
Voltage	10-30 V DC
Current	30 mA typical @ 24 V DC
Intrinsic consumption	750 mW
Electromagnetic compatibility	
Emissions	AS/NZS CISPR 22 / EN 55022 (Class A)
Immunity	EN 55024
Electrostatic discharge	EN 61000-4-2
Radiated RF	EN 61000-4-3
Fast transients	EN 61000-4-4
Conducted RF	EN 61000-4-6
Enclosure	
Material	Self-extinguishing PC/ABS blend (UL 94-V0)
Mounting	35 mm DIN rail (EN 60715)
Classification / Type rating	IP 20 / NEMA Type 1
Cooling	Convection
Environmental	
Operating temperature	0 to 60 °C / 32 to 140 °F
Storage temperature	-25 to 85 °C / -13 to 185 °F
Humidity rating	10 to 95% relative humidity, non condensing
Operating ambience	Free from corrosive gas, minimal dust
Physical	
Dimensions	101 x 22.5 x 120 mm / 3.98 x 0.886 x 4.72 in
Weight	0.15 kg / 0.33lb
Compliance	
Australia	C-Tick
Europe	CE, RoHS
USA	FCC Part 15 (Class A)
Canada	ICES-003 (Class A)

LED indicators

A LED test is exercised at power-up, cycling each LED off, green and then red for approximately 0.25 seconds. At the same time the power-on self test of the device is performed.

The following table outlines the indicator condition and the corresponding status after the power-on self-test has been completed:

LED	Function	Condition	Indication
Power	Power	Off	No power applied to the device.
		Green	Power supply OK
Link	Ethernet link	Off	No Ethernet link
		Green	Ethernet link OK
Status1	Device status	Off	The device has an unrecoverable fault; may need replacing.
		Flashing red at 1 s rate	Device operational but has a fault listed which requires acknowledgment.
		Flashing green at 1 s rate	Device operational but needs commissioning due to configuration missing, incomplete or incorrect.
		Green	The device is operating in normal condition.
		Red	The device has an unrecoverable fault; may need replacing. Flashing sequence and rate of Status2 LED indicates fault class.
Status2	Network status	Flashing red at 1 s rate	No CAN comms and not in DP Data_Exch state
		Off	CAN comms OK, but not in DP Data_Exch state
		Flashing red/ green at 1 s rate	No CAN comms but in DP Data_Exch state
		Green	CAN comms OK and in DP Data_Exch state

CONTACT

This product is designed and manufactured by:

proconX Pty Ltd
Unit 7 / 14 Argon St, Sumner QLD 4074, Australia
Tel +61 7 3376 3911
Website: http://www.proconx.com

Technical Support

We provide an electronic support and feedback system for our proconX products. It can be accessed through the following web link:

http://www.proconx.com/support

Product Returns

Before returning any product for service, repair or warranty, obtain first a RMA (Returned Material Authorization) number by contacting our technical support.
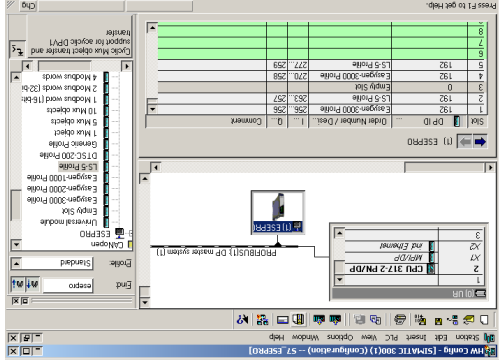
MAINTENANCE AND TROUBLESHOOTING

Maintenance

The ESEPRO does not require maintenance, nor does it contain any user-serviceable parts. If the ESEPRO requires service, contact us directly for assistance.

Refer to the technical support contacts provided at the end of this document.

Do not open the ESEPRO enclosure; this will void the product warranty.

Diagnostics and troubleshooting

⚠ **ELECTRICAL HAZARD**

- This equipment must be installed and serviced only by qualified personnel.
- Qualified persons performing diagnostics or troubleshooting that require electrical conductors to be energized must comply with and follow safe electrical work practices.

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The status web pages served by the ESEPRO, display diagnostic data that may be helpful in troubleshooting communication problems.

In addition the About page contains information about your specific ESEPRO, including the serial number and media access control (MAC) address. Some of these pages show a Clear Counter button. Clicking this button clears all cumulative readings shown on this particular page. If power to the ESEPRO is lost, all values reset to zero.

Configuring and commissioning

The device is configured using a Profibus configuration tool like Simatic Step 7's HW Config. The required GSD file PROX0ABA.GSD can be download from http://www.proconx.com/esepro/gsd

The default Profibus slave address of an uncommissioned ESEPRO device is 126.

Please consult the ESEPRO User Manual for further details how to commission the ESEPRO.

CAN bus connector pin assignment

Pinout as per CiA DS-102. Please observe the wiring, grounding and shielding instructions described in the ESEPRO User manual!

⚠ Do *not* connect the cable shield to the CAN_GND pins or the connector shell! Use an external *chassis ground* connection to terminate the shield.

1		NC
2	CAN_L	CAN_L bus line
3	CAN_GND	CAN ground
4		NC
5		NC
6	CAN_GND	CAN ground
7	CAN_H	CAN_H bus line
8		NC
9		NC

Profibus connector pin assignment

Pinout as per IEC 61158-2. Please observe the cabling instructions described in the ESEPRO User manual!

1		NC
2		NC
3	RxD/ TxD-P (red)	Non-inverting transceiver terminal, line B
4	CNTR-P	Control of repeater direction
5	DGND	Signal ground (isolated)
6	VP	Power supply +5 V (for bus termination)
7		NC
8	RxD/ TxD-N	Inverting transceiver terminal, line A (green)
9	SHIELD	Shield