Conext™ ComBox
865-1058

www.schneider-electric.com

Quick Start Guide

Communication and
Monitoring Device

A Introduction

The Conext ComBox is a multi-function communication device that delivers system performance monitoring for residential, industrial and telecom energy systems. As well as being a datalogger, the ComBox provides a communications gateway between a network of Xanbus™-enabled devices and Modbus devices through an RS485 or TCP/IP connection. System operators can also remotely configure the ComBox and monitor performance with third party software packages.

⚠DANGER

HAZARD OF ELECTRIC SHOCK AND FIRE

- Connect only to Safety Extra Low Voltage (SELV) circuits and power sources.
- All wiring must be done by qualified personnel to ensure compliance with all applicable installation codes and regulations.
- For Indoor Use Only.
- Do not disassemble. No user serviceable parts inside.

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

Exclusion for Documentation

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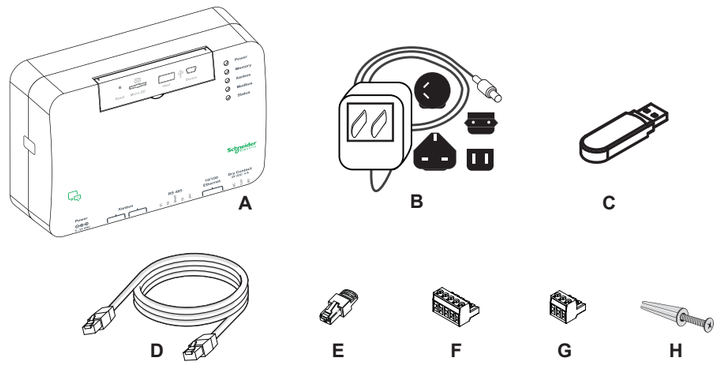
Conventions Used

A Section 1 Step ⚠ Safety Direction Expand **A** Label

Contact Information

www.schneider-electric.com
Please contact your local Schneider Electric Sales Representative or visit the Schneider Electric website at:
http://www.schneider-electric.com/sites/corporate/en/support/operations/local-operations/local-operations.page

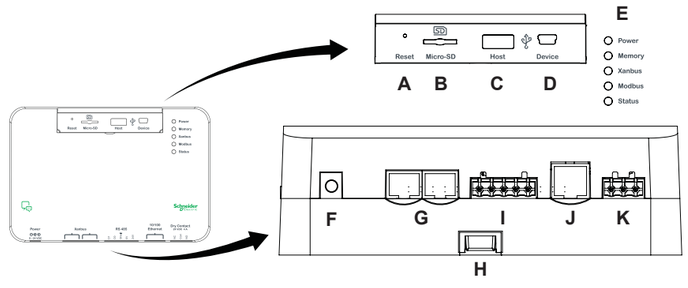
B Material List



A	Conext ComBox unit
B	AC/DC adapter* with changeable plugs
C	Thumb Drive (User guides, device discovery tool)
D	Ethernet cable
E	Xanbus network terminator
F	RS 485 Modbus connector (or RS 485 connector)
G	Dry contact connector
H	Woodscrew #6 with anchor (2)

* When ordering a replacement, reference PN: 0J-921-0023-Z.

C Identification

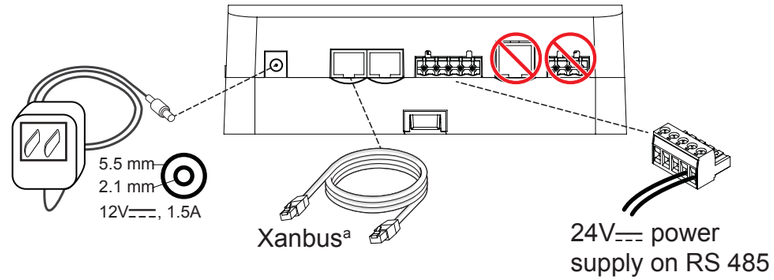


A	Reset pinhole
B	Micro-SD port
C	USB Host port
D	USB Device port
E	LED indicator lights
F	Power port
G	Xanbus ports
H	DIN rail sliding catch
I	RS 485 Modbus port (or RS 485 port)
J	10/100 Ethernet port
K	Dry contact port

D Overview of available power sources

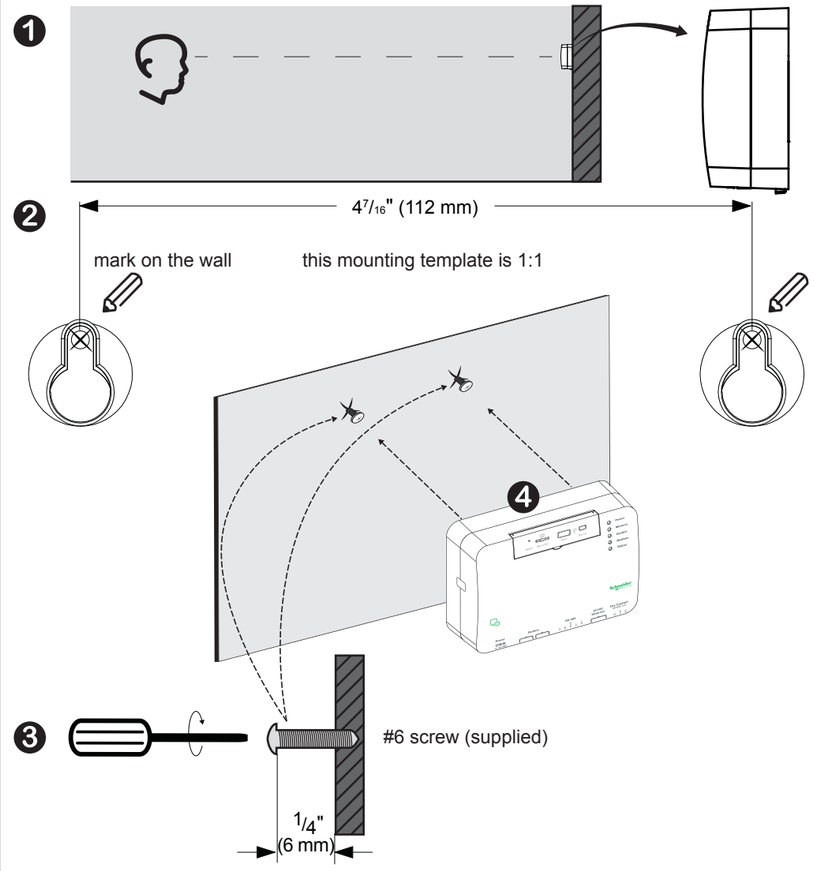
NOTE:

- The Conext ComBox can be powered by all three sources simultaneously. Typically, the AC/DC adapter is used as a primary power source. Xanbus or 24V⎓ input power through the RS 485 are secondary power sources.
- Do not turn on the Conext ComBox by connecting to either of these power sources until section **H1 Turning On the ComBox.**



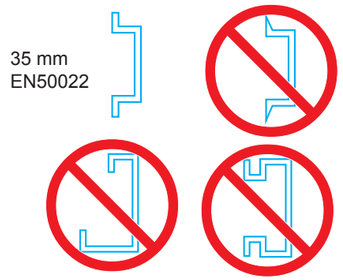
a. For a complete list of Xanbus-enabled devices including devices that can provide power to the Conext ComBox, see the Installation and Configuration Guide.

E1 Mounting to a wall



E2 Mounting to a DIN rail

1



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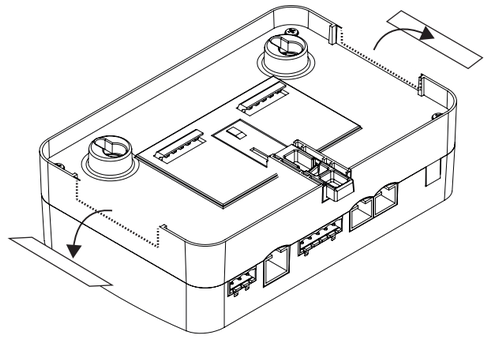

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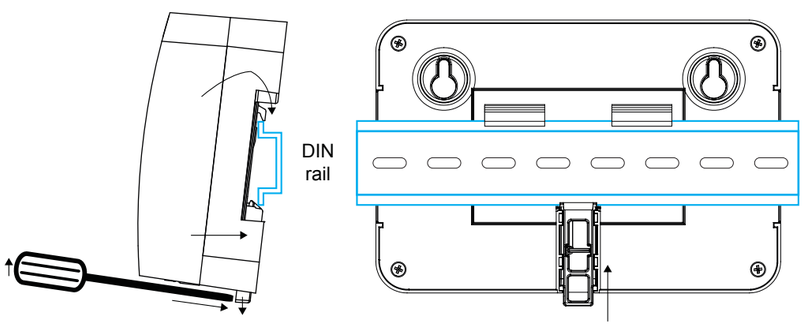
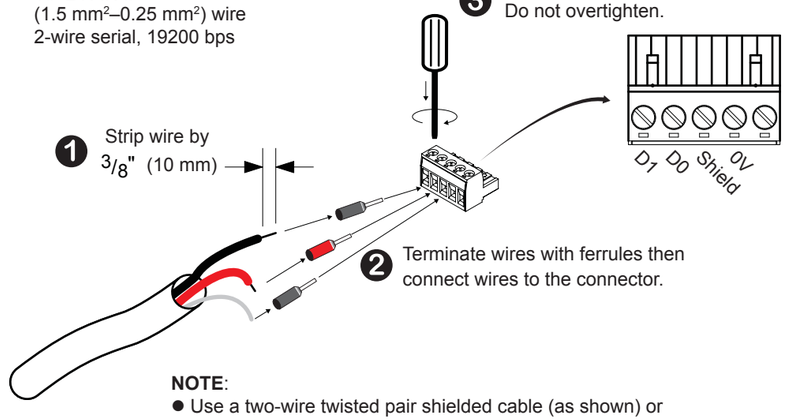


F1 Wiring the RS 485 connector

RS 485 CONNECTOR SPECIFICATIONS
16–24 AWG
(1.5 mm²–0.25 mm²) wire
2-wire serial, 19200 bps



NOTE:
- Use a two-wire twisted pair shielded cable (as shown) or a two-wire twisted pair unshielded cable.
- Refer to local electrical codes and applicable installation codes and regulations.
- Use smaller gauge wires when inserting two wires in one terminal (see **F2 Daisy-chaining Modbus devices**).
- A common ground (0V) between all Modbus devices is required.

F2 Daisy-chaining Modbus devices

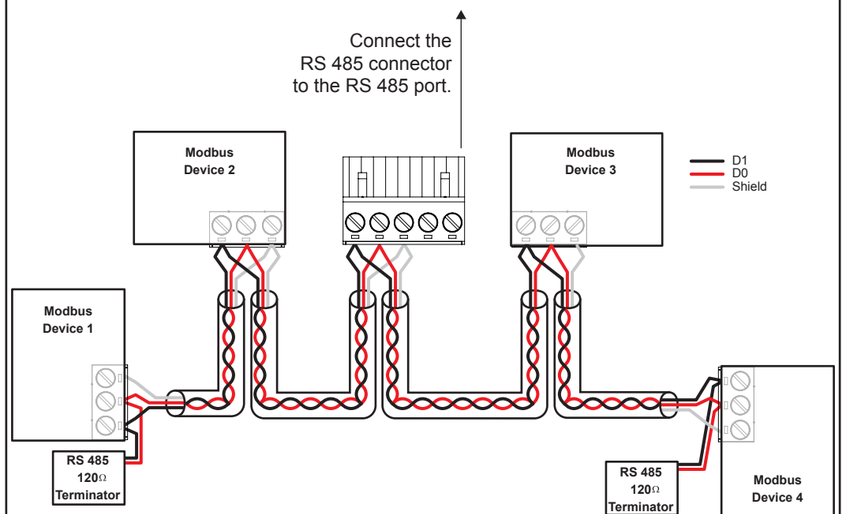


Illustration only.
Common Ground is also required.
Devices vary and may not require shielded wire.

F3 Wiring the Dry Contact connector

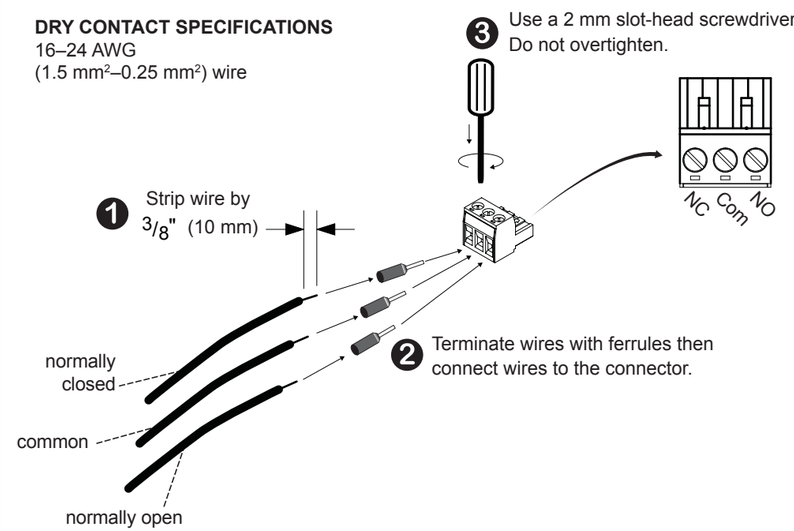
⚠DANGER

HAZARD OF ELECTRIC SHOCK AND FIRE

The Dry contact port must only be connected to a circuit rated 24V⎓ max, 4A max, and supplied from an SELV source.

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

DRY CONTACT SPECIFICATIONS
16–24 AWG
(1.5 mm²–0.25 mm²) wire



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G Connecting to an Ethernet network

NOTICE

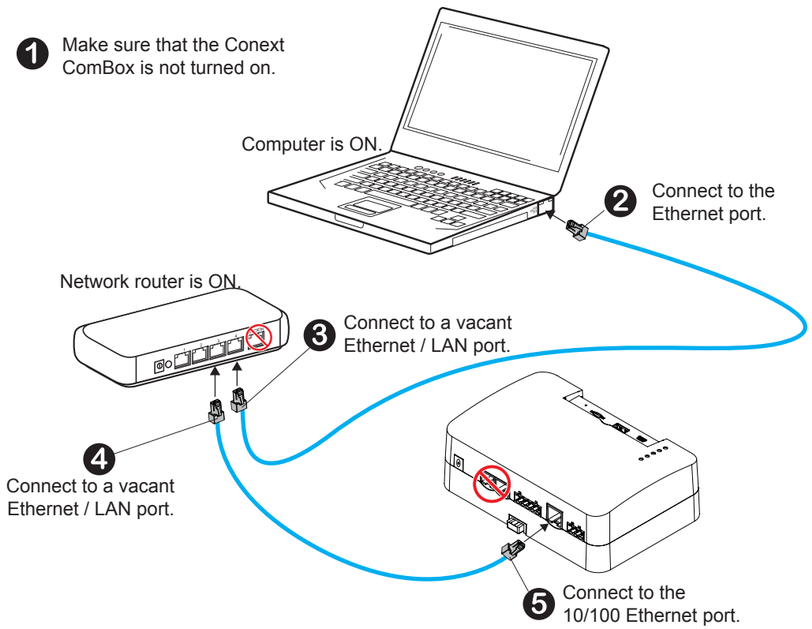
EQUIPMENT DAMAGE

- Do not connect an Ethernet cable plug to the MODEM / WAN port of the network router.
- Do not connect an Ethernet cable plug to a Xanbus port of the Conext ComBox.

Failure to follow these instructions can damage equipment.

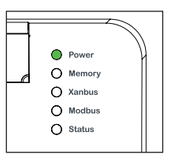
NOTE:

- The network router must be able to supply DHCP addresses automatically to connected devices. If your network router does not support automatic DHCP, refer to your network router's user guide or contact your system administrator.
- The computer and network router may remain powered at this stage in the process. If not already powered, make sure these two devices are ON before proceeding.
- Follow the connection sequence below. Skip steps ❷ and ❸ if the computer is connected by Wi-Fi to the Ethernet / LAN.



H1 Turning On the ComBox

OPTION 1 Connect the AC/DC adapter (supplied)
OPTION 2 Connect a 24V⎓ power supply via the RS 485 connector (see next section **H2**)



When power is applied to the Conext ComBox using either options, all the LED lights will flash once and then the Power LED will flash intermittently for approximately two minutes.
Then, the Power LED lights up steadily.

H2 Connecting a 24V⎓ power supply via the RS 485 connector

⚠DANGER

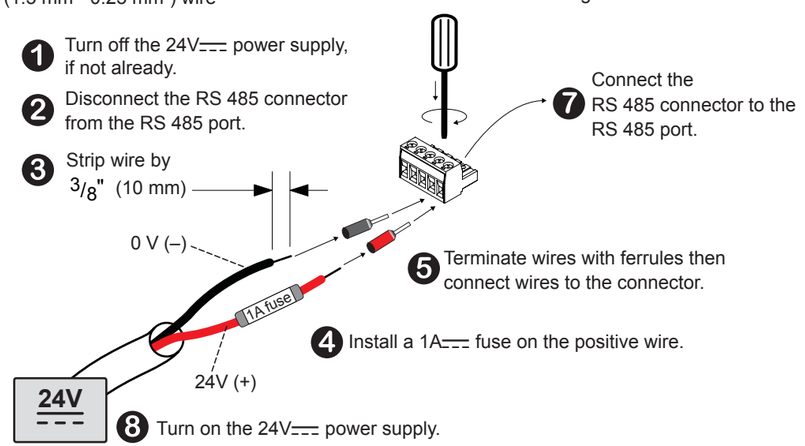
HAZARD OF ELECTRIC SHOCK AND FIRE

The RS 485 connector must only be connected to a circuit rated 24V⎓ max, 1A max (fused on the positive wire), and supplied from an SELV source.

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

DC WIRE SPECIFICATIONS

16–24 AWG
(1.5 mm²–0.25 mm²) wire



I Discovering the Conext ComBox on the Network

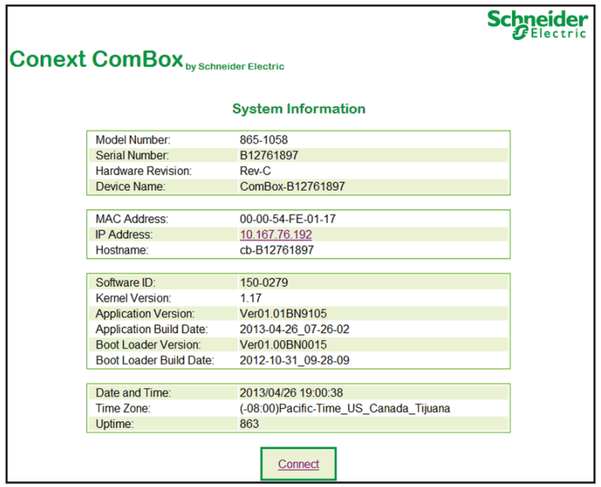
PREREQUISITES

OS ■ Windows 7 ■ XP (SP2, SP3) ■ Vista ■ Mac OS X 10.4.8.

Web browsers ■ Windows Internet Explorer 8.x and later ■ Firefox 12.x and later ■ Google Chrome 18.x and later ■ Safari 5.x and later

Other hardware ■ USB thumb drive

1. **Plug a USB thumb drive into the ComBox's USB Host data port while the ComBox is turned on (the Power LED is steadily on and not flashing).**
2. **Watch the Memory LED and wait for it to flash quickly five times.**
3. **Remove the USB thumb drive from the USB Host data port.**
4. **Plug the USB thumb drive into your computer's USB port.**
5. **Navigate to the root directory of the thumb drive using the file system browser on your computer.**
6. **Look for a file named *serial number.html*, where *serial number* is the serial number of the ComBox.**
7. **Double-click on the *serial number.html* file. Your default web browser will launch and display the System Information below.**



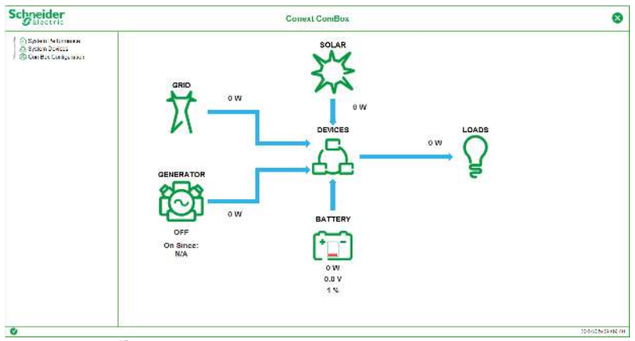
8. **Click on the Connect button shown within System Information. The web browser opens up and the ComBox user interface Login window appears.**
   NOTE:
   Make sure that your computer is on the same Local Area Network as the ComBox.

J Configuring Device Settings and Connecting to Xanbus

1. **Enter the User name and Password and click Log In.**

User name: admin
Password: password

The Conext ComBox Status page appears.



2. **Click the arrow ▷ to the left of "ComBox Configuration" to expand the menu.**

⚠WARNING

HAZARD OF PHYSICAL INJURY AND UNEXPECTED OPERATION

Refer to the Owner's Guide for more detailed information when making any changes to settings or sending commands. Commands sent to this device may affect other components in the system. Ensure that anyone working with the system is aware of the result of your changes before sending a command.

Be careful when changing the ComBox time setting. It will override any time settings on individual Xanbus-enabled devices in the network. The time represents the entire system. Any appliance or equipment that is time-controlled by a Xanbus device, such as a generator connected to an AGS, can inadvertently turn on at the wrong time.

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

3 Click Settings.

The Conext ComBox Settings page appears.

Each of the Settings above, when clicked, will expand and display its sub-settings.

With some exceptions, each sub-setting is comprised of two fields – a Parameter and its Value, and two buttons – ↻ recall (or refresh) and 💾 save.

4 Change the Time and Zone setting before connecting the ComBox to the Xanbus network. To change the setting, click Time and Zone.

NOTE: For more information on another time-related ComBox setting called Network Time (SNTP) and its effect on the Xanbus network, refer to the Conext ComBox Owner's Guide.

Time and Zone

Date/Time: *2012/12/11 12:53:18* *Set Time*

Time Zone: *(-8:00) Pacific Time (US, Can* *Set Time Zone*

To change the Date/Time parameter, overwrite the existing value with the current date (*YYYY/MM/DD*) and time (*HH:MM:SS*). Click *Set Time* to save the new setting.

5 Lost password recovery is not possible without entering a valid e-mail address and enabling e-mail notification. To do this, click E-mail Settings.

Change only the four parameters below.

E-mail Settings

Parameter	Value
Mailer Status	*Enabled*
Lost Password E-mail Recipients	*user@yourdomain.com*
Lost Password E-mail From Address	*no-reply@schneider-electric.com*
Reset Lost Passwords	*No*

NOTE:
Change the Reset Lost Passwords to *Yes*, if you want a new password to be sent to the email address in Lost Password E-Mail Recipients.

Retain the default *No*, if you want the actual password you had forgotten to be sent to the email address in Lost Password E-Mail Recipients.

6 Connect the ComBox to the Xanbus network.

NOTICE

EQUIPMENT DAMAGE

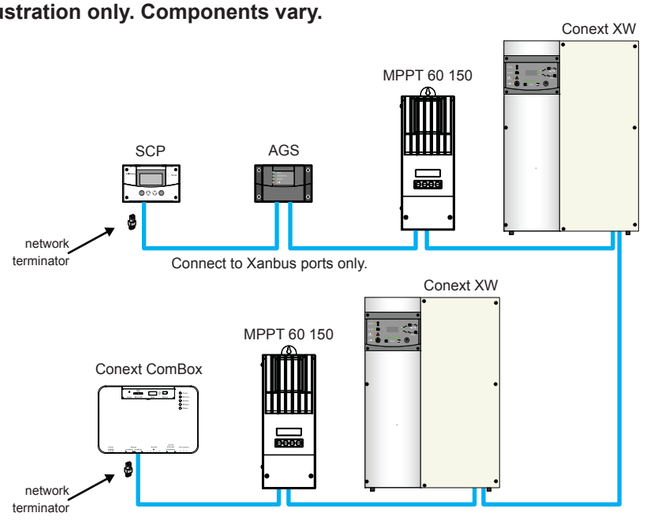
Do not connect a Xanbus cable plug to the 10/100 Ethernet port of the Conext ComBox.

Failure to follow these instructions can damage equipment or affect network performance.

NOTE:

- Use Xanbus cables that are longer than 6.5 ft (2 m). The total length of all cables combined must not exceed 131 ft (40 m).
- Xanbus components can be arranged in any order. Use a network terminator at both ends of the network. See illustration below.

Illustration only. Components vary.



7 Change all other settings as needed. Refer to the ComBox Owner's Guide for more information on all other settings.

K Specifications

ELECTRICAL SPECIFICATIONS

COMMUNICATION INTERFACES

Xanbus	Connector: 2 x RJ45 Products Supported: Conext XW+, SW, TX, Grid Tie, MPPT 60, HV MPPT 80, AGS, SCP, Battery Monitor
Ethernet	Connector: 1 x RJ45, 10/100 MBPS, Server: FTP, Web, Modbus TCP/IP, Client: SMTP, SNTP; Discovery: DPWS.
RS 485	Modbus (1 x Connector: Screw 5-terminal, 16-24AWG, 2-wire serial, 19200 bps) Monitoring supported for: Conext CL, RL, & TL; PM810, PM820, PM850, PM870.

DATA INTERFACES

USB 2.0-Host	USB-A, MSD protocol for firmware and device upgrades
USB 2.0-Device	USB-mini B, MSD protocol for exporting data logs to a PC

POWER SUPPLY (SELV ON ALL SOURCES)

Power Consumption	2 W average / 10 W peak
AC/DC adapter*	Input: 100-240V⁓, 50-60Hz, 0.6A, Output: 12V⎓, 1.5A, 5.5mm outer, 2.1mm center-positive jack
Xanbus	When connected to Conext XW+ / SW or HV MPPT 80 providing 15V⎓, 200mA min or more than one Conext TX
24V on RS 485 connector	24V⎓, 1A max input only through pins 4 and 5

* When ordering a replacement, reference PN: 0J-921-0023-Z.

MEMORY

Internal	96 MB flash
External Micro-SD Card	2GB or more, class 2 or better recommended

GENERAL SPECIFICATIONS

Weight	250 g (0.6 lb)
Housing / Mounting System	ABS Plastic / DIN-rail: 35 mm, Wall-mount: 2-screw
IP rating / Mounting Location	IP 20, NEMA Type 1, Indoor only
Status Display	5 x LEDS
Temperature	Operating: -4 to 122 °F (-20 to 50 °C) Storage: -40 to 185 °F (-40 to 85 °C)
Humidity	Operating: < 95%, non-condensing Storage: < 95%

FEATURES

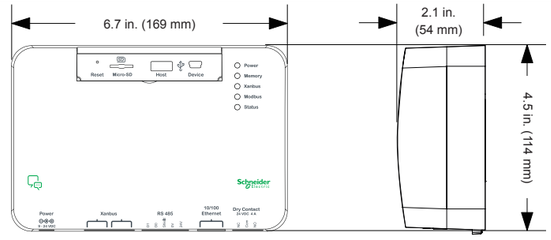
Programmable dry contact relay	Screw 3-terminal, 16-24 AWG, NC-Com-NO, Class 2, 24V⎓, 4A max SELV input only
Graphical user interface	Integrated Web Server for ComBox settings only (Internet Browser), Android tablet
Remote firmware upgrades	Yes
Max. number of Xanbus devices	Up to 20 (depending on device type). See Installation and Configuration guide for further details.

REGULATORY

EMC immunity	EN61000-6-1
EMC emission	EN61000-6-3, FCC Part 15 Class B, Ind. Canada ICES-003 Class B
Substances / environmental	RoHS

For indoor use only.

DIMENSIONS



NOTE: Specifications are subject to change without notice.

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