

Quickstart 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

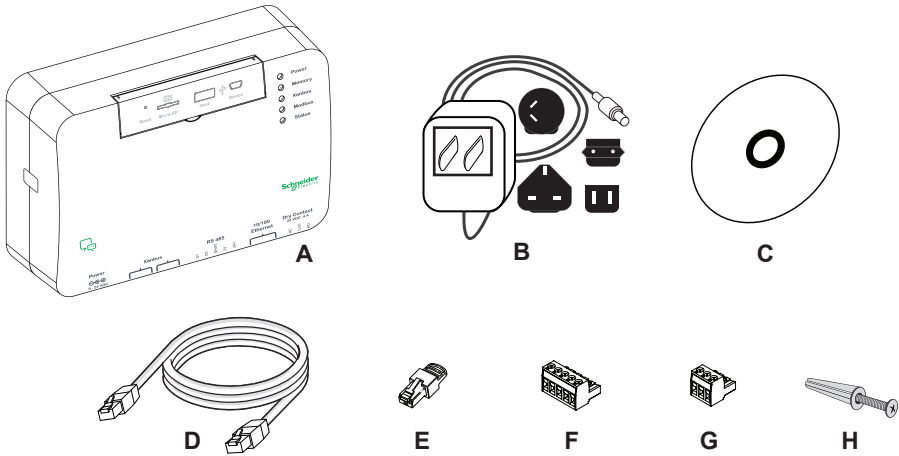
Contact Information

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

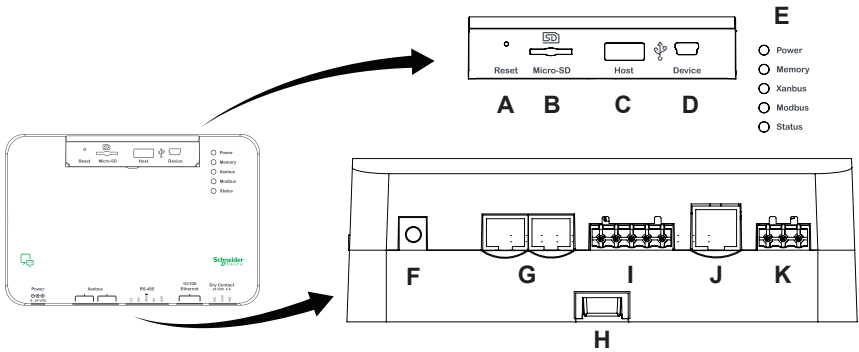
B Material List



- A Conext ComBox unit
- B AC/DC adapter\* with changeable plugs
- C CD (owner's guide, 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

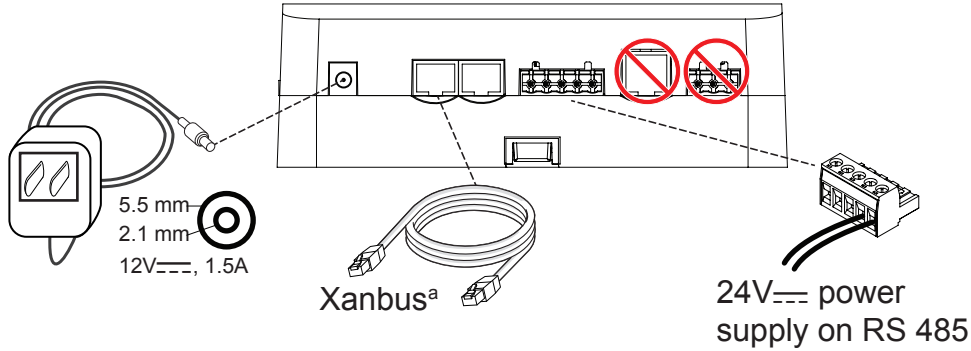


- A Reset pinhole
- B Micro-SD port
- C USB Host port
- D USB Device port
- E LED indicator lights
- F Power port
- G Xanbus ports
- H DIN rail sliding catch
- I RS 485 Modbus port (or RS 485 port)
- J 10/100 Ethernet port
- K Dry contact port

D Overview of available power sources

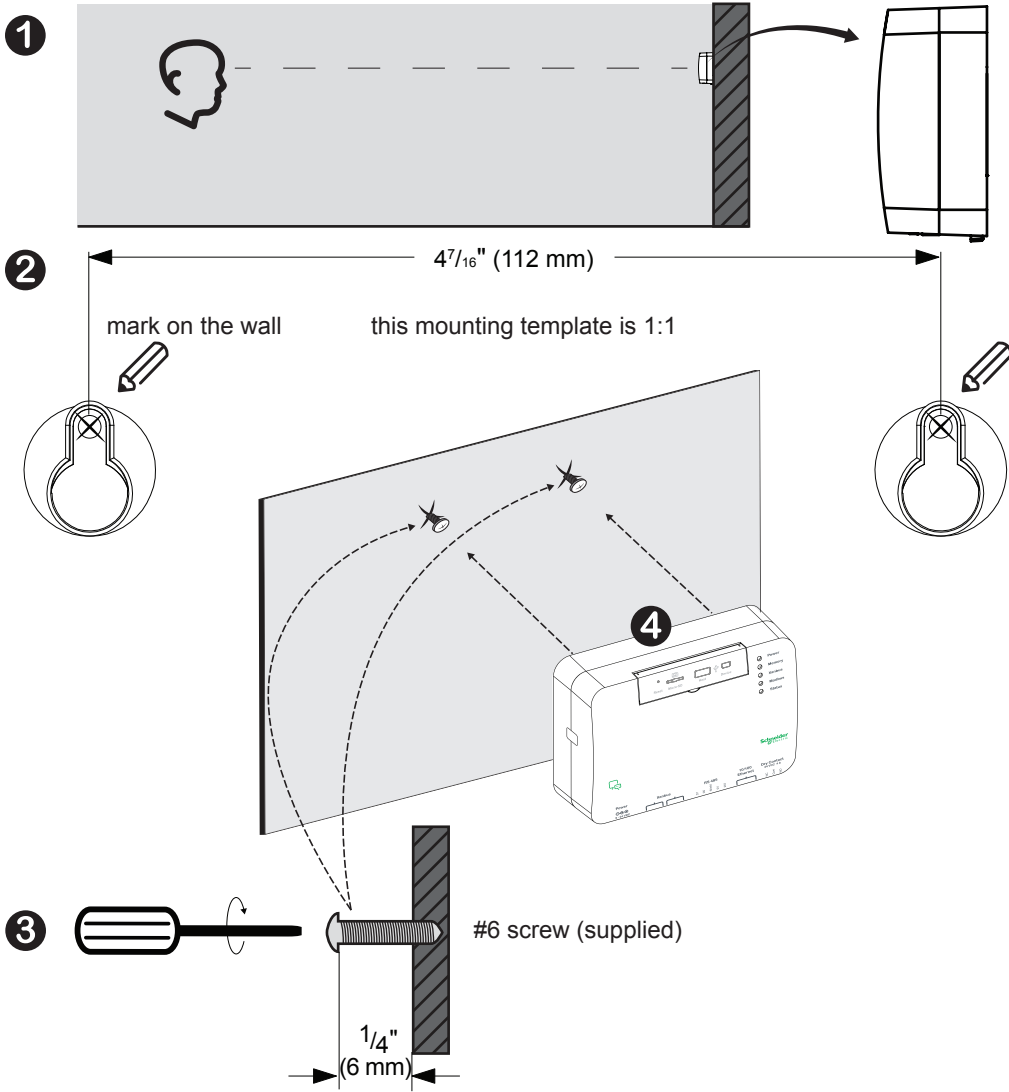
NOTE:

- 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 24VDC 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.



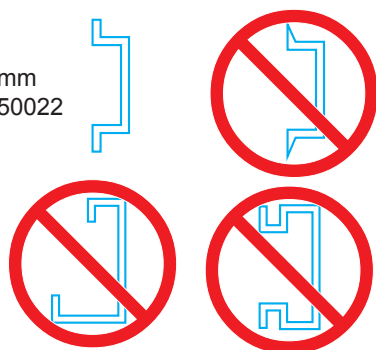
a. For a complete list of Xanbus-enabled devices including devices that can provide power to the Conext ComBox, see the Owner's Guide.

E1 Mounting to a wall



### F3 Wiring the Dry Contact connector

35 mm  
EN50022



DIN rail

16–24 AWG  
(1.5 mm<sup>2</sup>–0.25 mm<sup>2</sup>) wire  
2-wire serial, 19200 bps

**3** Use a 2 mm slot-head screwdriver.  
Do not overtighten.

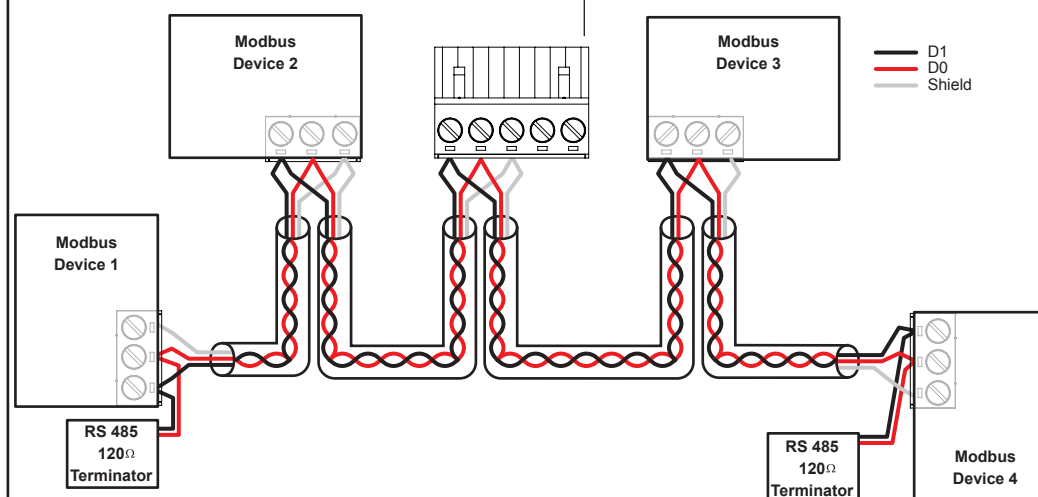
1 Strip wire by  $\frac{3}{8}$ " (10 mm)

- 2 Terminate wires with ferrules then connect wires to the connector.

**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**).

Connect the RS 485 connector to the RS 485 port.



**Illustration only. Devices vary and may not require shielded wire.**

## HAZARD OF ELECTRIC SHOCK AND FIRE


The Dry contact port must only be connected to a circuit rated 24V $\overline{=}$  max, 4A max, and supplied from an SELV source.

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

16–24 AWG  
(1.5 mm<sup>2</sup>–0.25 mm<sup>2</sup>) wire

**3** Use a 2 mm slot-head screwdriver.  
Do not overtighten.

**1** Strip wire by  $\frac{3}{8}$ " (10 mm)

 **2** Terminate wires with ferrules then connect wires to the connector.

normally  
closed

common

normally open

G Connecting to an Ethernet network

NOTICE

EQUIPMENT DAMAGE

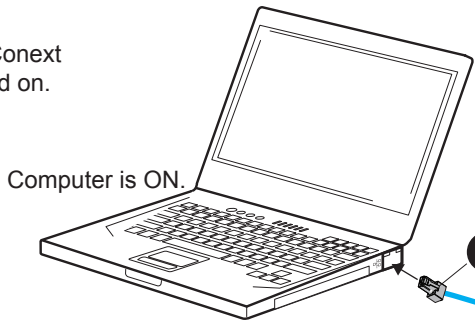
- Do not connect an Ethernet cable plug to the MODEM / WAN port of the network router.
- Do not connect an Ethernet cable plug to a Xanbus port of the Conext ComBox.

Failure to follow these instructions can damage equipment.

NOTE:

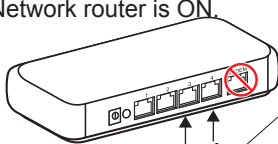
- The network router must be able to supply DHCP addresses automatically to connected devices. If your network router does not support automatic DHCP, refer to your network router's user guide or contact your system administrator.
- The computer and network router may remain powered at this stage in the process. If not already powered, make sure these two devices are ON before proceeding.
- Follow the connection sequence below. Skip steps 2 and 3 if the computer is connected by Wi-Fi to the Ethernet / LAN.

- 1 Make sure that the Conext ComBox is not turned on.



- 2 Connect to the Ethernet port.

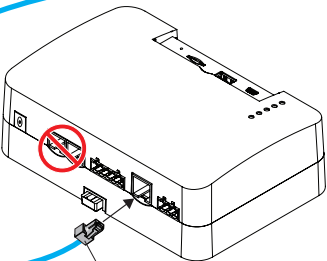
Network router is ON.



- 3 Connect to a vacant Ethernet / LAN port.

4 Connect to a vacant Ethernet / LAN port.

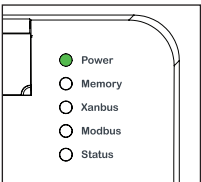
4



- 5 Connect to the 10/100 Ethernet port.

H1 Turning On the ComBox

- OPTION 1 Connect the AC/DC adapter (supplied)  
OPTION 2 Connect a 24VDC 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 24VDC power supply via the RS 485 connector

⚠ DANGER

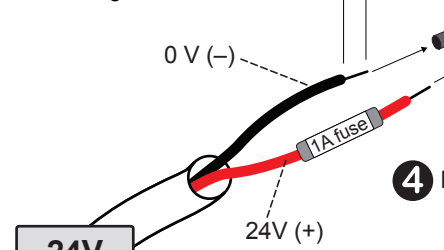
HAZARD OF ELECTRIC SHOCK AND FIRE

The RS 485 connector must only be connected to a circuit rated 24VDC 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 mm<sup>2</sup>–0.25 mm<sup>2</sup>) wire

- 1 Turn off the 24VDC power supply, if not already.  
2 Disconnect the RS 485 connector from the RS 485 port.  
3 Strip wire by 3/8" (10 mm)



- 8 Turn on the 24VDC power supply.

- 6 Use a 2 mm slot-head screwdriver. Do not overtighten.

- 7 Connect the RS 485 connector to the RS 485 port.

- 5 Terminate wires with ferrules then connect wires to the connector.

- 4 Install a 1A fuse on the positive 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.

Conext ComBox by Schneider Electric

System Information

Model Number:	865-1058
Serial Number:	B12761897
Hardware Revision:	Rev-C
Device Name:	ComBox-B12761897

MAC Address:	00-00-54-FE-01-17
IP Address:	10.167.76.192
Hostname:	cb-B12761897

Software ID:	150-0279
Kernel Version:	1.17
Application Version:	Ver01.01BN9105
Application Build Date:	2013-04-26_07-26-02
Boot Loader Version:	Ver01.00BN0015
Boot Loader Build Date:	2012-10-31_09-28-09

Date and Time:	2013/04/26 19:00:38
Time Zone:	(-08:00)Pacific-Time_US_Canada_Tijuana
Uptime:	863

Connect

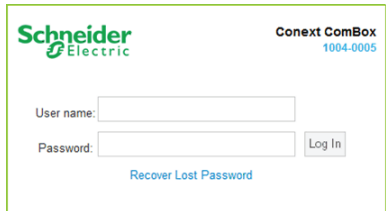
- 8 Click on the Connect button shown within System Information. The web browser opens up and the ComBox user interface Login window appears.

NOTE:

Make sure that your computer is on the same Local Area Network as the ComBox.

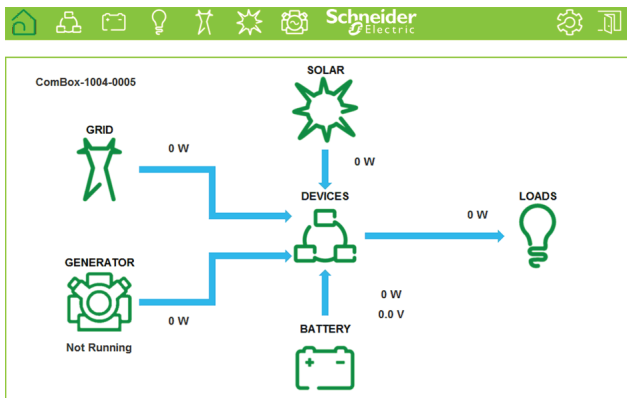
J Configuring Device Settings and Connecting to Xanbus

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



User name: admin  
Password: password

The Conext ComBox Status page appears.

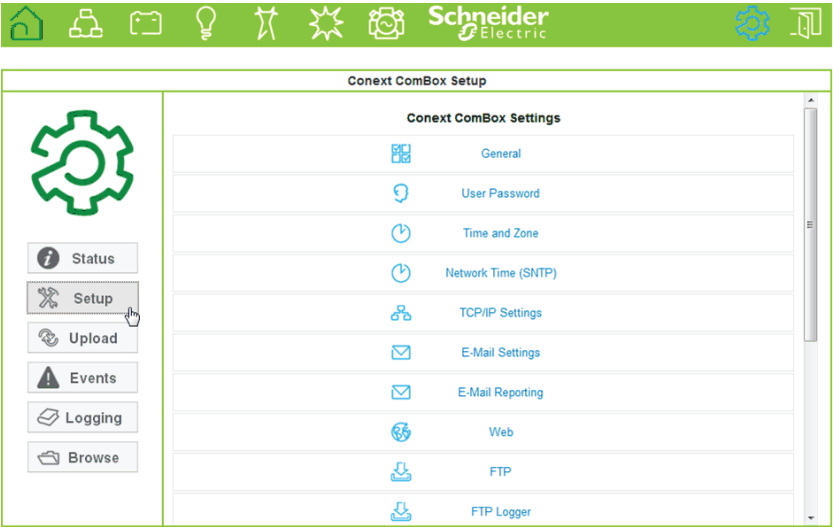


- 2 Click the Settings icon on the top right corner of the page.

3 Click the Setup button.



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.

**WARNING**

**PHYSICAL INJURY HAZARD**

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.**

**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.



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.



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**

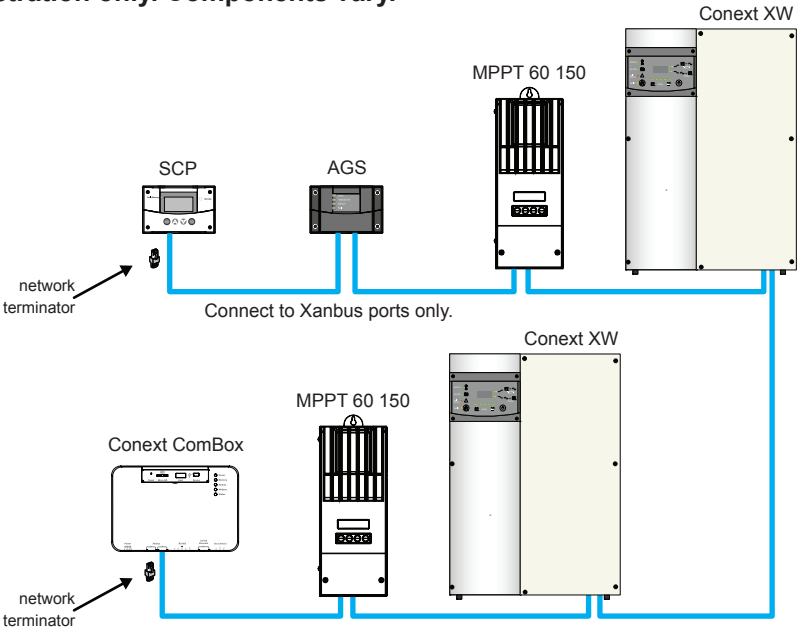
Do not connect a Xanbus cable plug to the 10/100 Ethernet port of the Conext ComBox.

**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
Ethernet	Connector: 1 x RJ45, 10/100 MBPS Server: FTP, Web, Modbus TCP/IP Client: SMTP, SNTP; Auto discovery: DPWS
RS 485	Modbus (1 x Connector: Screw 5-terminal, 16-24AWG, 2-wire serial, 19200 bps)

**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=, 1A max input only through pins 4 and 5
24V on RS 485 connector	

\* 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)

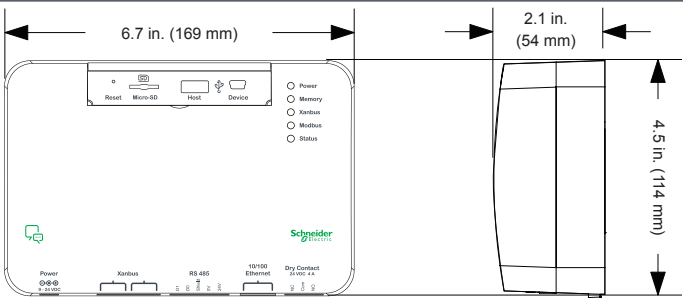
**REGULATORY**

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.