FreeCon Active
PROFINET Media converter

IE-CDM-V14MRJSCP/VAPM-C II
2588270000

Hardware Installation Guide

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Weidmüller ⌇

Overview

The FreeCon Active Series supports PROFINET IRT.

The devices provides 18 to 30 VDC power input that can be connected simultaneously to a live DC power source.. The IP65 metal housing makes them rugged enough for any harsh industrial environment.

Package Checklist

Your FreeCon Active is shipped with the following items. If any of these items are missing or damaged, please contact your Weidmüller customer service for assistance.
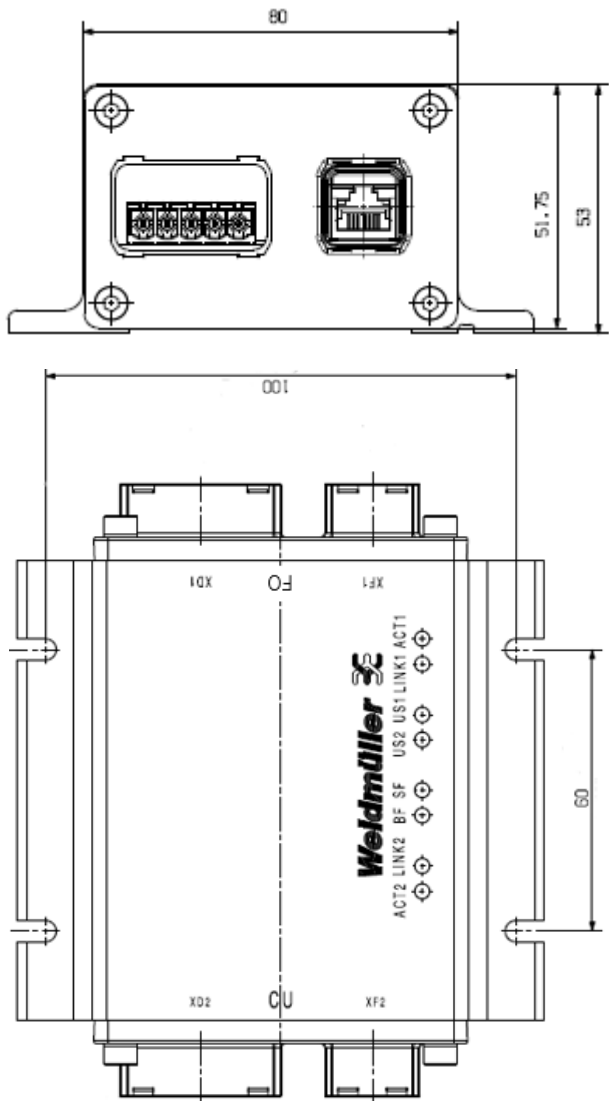
- FreeCon Active device
- Hardware Installation Guide (This document)

Features

- PROFINET IRT Media converter with diagnostic functions
- PROFINET Power Push Pull connector
- PROFINET Data PushPull connector with RJ45 and with SCRJ/POF
- Temperature range from -20 to 55°C
- Input voltage from 18 to 30 VDC
- Typical input current from 150 mA
- Power througput 2x24VDC/16A (at 20°C)
- IP65 metal housing
- Panel mounting ability

Mounting Dimensions (unit = mm)

Wall Mounting

Mounting the FreeCon Active on the wall requires 4 screws. Use the FreeCon Active device as a guide to mark the correct locations of the 4 screws. We recommend M4x10mm (or longer), torque 2,5 Nm.

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Wiring Requirements

> ⚠️ **WARNING**
>
> **Safety First!**
>
> Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size.
>
> If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

You should also pay attention to the following points:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.
  NOTE: Do not run signal or communications wiring and power wiring in the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
- It is strongly advised that you label wiring to all devices in the system when necessary.

Pin Assignement:

1: L1 (24 VDC, US1+)

2: N1 (0 VDC, US1-)

3: L2 (24 VDC, US2+)

4: N2 (0 VDC, US2-)

5: FE (Functional earth)

Use power plug:

2465440000 / IE-PS-VAPM-5P-2,5

Grounding the Ethernet Switch

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices.

> ⚠️ **ATTENTION**
>
> This product is intended to be mounted to a well-grounded mounting surface such as a metal panel.

Ethernet Port Connection

Use PushPull data plug: 1012170000 IE-PS-V14M-RJ45-FH-P for RJ45 port

Use PushPull data plug: 1191550000 IE-PS-V14M-2SC-POF for SCRJ/POF port

> ⚠️ **ATTENTION**
>
> This is a Class 1 Laser/LED product. To avoid causing serious damage to your eyes, do not stare directly into the Laser Beam.

LED Indicators

The front panel of the Ethernet Switch contains several LED indicators. The function of each LED is described in the table below.

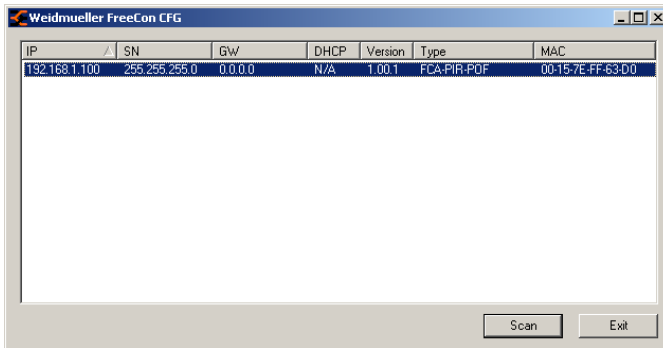| LED	Color	State	Description
US1/2	green	On	- Power is being supplied to power input US1/2.
		Off	- Power is not being supplied to power input US1/2.
BF	red	On	- Not connected to network. - Rx power alarm
		Blinking	- Not connected to IO controller - HW configuration error
		Off	- Connection established
SF	red	On	- Configuration error - Station name not assigned - IP number not assigned
		Off	OK
LNK1/2	yellow	On	- TP port's 100 Mbps link is active.
		Blinking	- PROFINET IO Flash/Blink identification.
		Off	- No link
ACT1/2	green	On/flickering	- communication present
		Off	- No communication

Quick Start

Take the GSDML file and fit it in the PLC configuration (Standard procedure of PROFINET engineering)
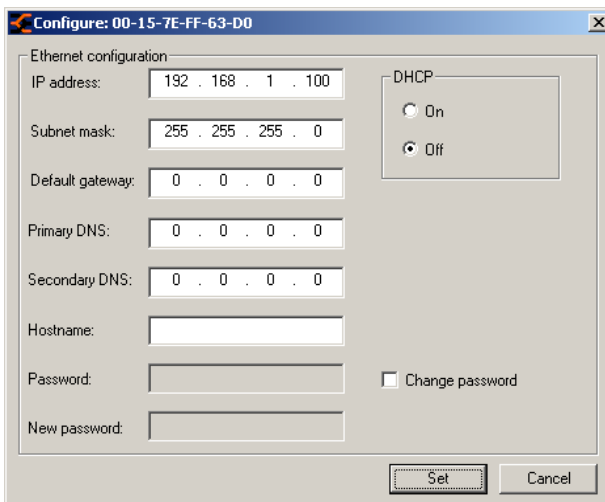
OR

Access via Internet browser with default IP address 0.0.0.0

OR

1: Connect Power PushPull to the power port of FreeCon

2: Connect Data PushPull RJ45 and SCRJ to the data ports of FreeCon

3: Start Config tool (FreeCon CFG) on your PC (which is connected to the same Profinet)

4: Click on IP-address to change it (the shown IP is a sample)

5: Push set buttom to adopt the new values

Actual Soft-/Firmware: www.weidmueller.de -> downloads -> software -> Industrial_Ethernet

Specifications

Technology
Standards   100BaseT, 100BaseFX POF, PROFINET IRT
Interface
Data Ports   100BaseT port, 100BaseFX POF (PROFINET
        PushPull (V14) connector)

Optical Fiber

	100BaseFX (POF)
	POF
Wavelength	650 nm
Max. TX	-2 dBm
Min. TX	-8,5 dBm
RX Sensitivity	-25 dBm
Link Budget	16,5 dB
Typical Distance	50m*
Saturation	+1 dBm

 * using P980/1000 POF cable (160dB/km)

Power
Input Voltage   18…30 VDC
Input Current   0,15 A/24VDC
Power throughput   2x24VDC/16A at 20°C
Connection   Power PushPull connector
Reverse Polarity Protection Present

Physical Characteristics
Housing   IP65 protection, metal case
Dimensions   112x52x130mm
Weight   780g
Installation   Wall Mounting, 4x M4x10

Environmental Limits
Operating Temperature -20 to 55°C
Storage Temperature   -40 to 70°C
Ambient Relative Humidity 5 to 95% (non-condensing)

Regulatory Approvals
Emission   EN 61000-6-4 Class A
ESD   EN61000-4-2 Level 3
RF   EN61000-4-3 Level 3
Burst   EN61000-4-4 Level 3
Surge   EN61000-4-5 Level 3
CRFI   EN61000-4-6 Level 3
Shock   IEC 60068-2-27
Hammer   IEC 60068-2-75
Vibration   IEC 60068-2-6

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