

Hacousto Holland bv
 Industrieweg 87
 2651BC Berkel & Rodenrijs



4E-IMPACT reference manual

Author:

DD



SUMMARY

This document describes specifications, functions, configuration settings and interfaces of the 4EVAC IMPACT Voice Evacuation System.


REVISION AND APPROVAL

Rev.	Date	Nature of Changes	Approved By
01	05-07-2018	Original draft	DD
02	11-06-2020	Corrections	TvdH

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1. What is IMPACT?

4EVAC IMPACT is a scalable, networkable Voice Evacuation System suitable for installations which require centralized power amplification of large capacity.

It is dedicated to centralized installations, yet fully capable of distributed operation.



4E-FSC is a DIN-rail mounted, optical multimode fiber signal adapter dedicated for the 4EVAC Voice Evacuation Systems. 4E-FSC is dedicated only to the G-Net (Global Network) of the 4EVAC system, interconnecting main units of the system. It extends single link range up to 2 km.

The fiber adapter is powered directly over the G-Net port.

4E-FSC features a standard SC connector for the fiber cable, providing easy click-in connection.

2. System components

2.1. Core components

2.1.1. CONTROLLER

2.1.2. DCA2.500 charging amplifier

2.1.3. 4E-SW6 zone switching module

2.2. Peripherals

IMPACT is fully compatible with all L-Net devices as well as the Compact 500 system.

Impact and Compact systems both can work in one network, sharing the same configuration data.

3. Connection diagram

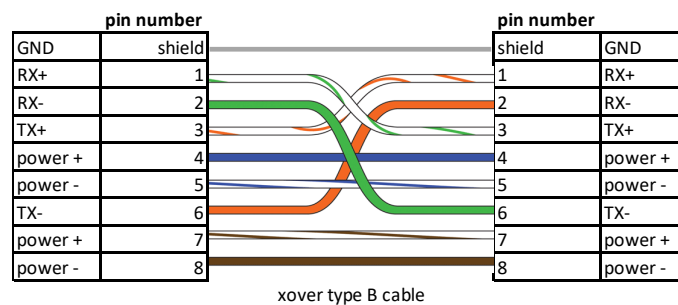
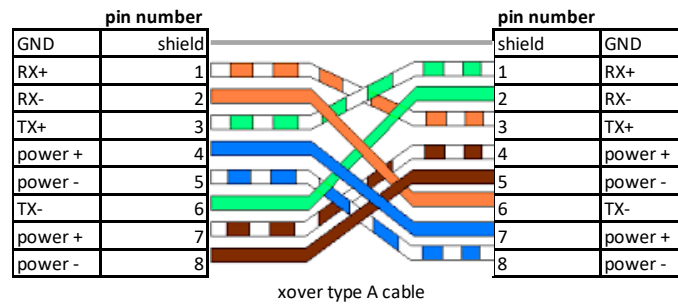


4. Network cabling

The 4EVAC network features a full duplex RS-422 data link and 24V DC power to remote devices.

If you're building a distributed system using the 4EVAC network, you should make physical links between devices using the right cables. The cabling should meet the following requirements:

1. Crossover twisted-pair cable (compatible with Ethernet crossover)



2. CAT5e or higher for maximum distance of 250m.
3. Non-CAT / lower than CAT5e: 250m not guaranteed.

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4. Shield required (at least FTP)



NOTE: If you use a straight cable, the device will power up but the Tx/Rx data terminals will not be properly connected. This will result in a communication fault.



Caution! Use only crossover cables and keep the correct pinout! Connecting power pins to data pins will damage the network port.

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5. Technical specifications

CONTROLLER	
Maximum number of zones	
Standalone	96 (16 x 4E-SW6)
Network	255 (max. system capacity)
Inputs	
Outputs	
Network interface	
Maximum range (optical)	2000 m
Optical interface	
Wavelength	820 nm
Compatible fiber type	multimode Plastic-Clad Silica (PCS): 50/125 µm 62.5/125 µm (recommended) 100/140 µm 200 µm
Connector	SC
Cable type	Double fiber (full duplex)
Transceiver details	Avago (Broadcom) Tx: HFBR-14E4Z Rx: HFBR-24E2Z <i>manufacturer's datasheet: docs.broadcom.com/docs/AV02-0176EN</i>
Mechanical	
Dimensions HxWxD)	9 x 3.6 x 6.2 cm
Weight	70 g
Housing material	ABS
IP rating	IP 30
Mounting	DIN rail
Operating conditions	
Temperature	10–40°C
Relative humidity	max. 90% (non condensing)
Storage temperature	-40–70°C
DCA 2.500	
General	20 mA
Power consumption	
Inrush current	
Audio	
Frequency response	
SNR	

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Inputs	
Outputs	
Charger	
Type	Autonomous EN54-4 compliant charger with thermal correction
Parallel operation	Max. 3 x DCA2.500 (1 x master + 2 x slave)
Max. charging current	
Battery type	24V (2x12V) maintenance-free, lead-acid, sealed, for stationary buffer operation.
Max. battery capacity	
Float voltage (full capacity)	
Mechanical	
Dimensions HxWxD)	9 x 3.6 x 6.2 cm
Weight	
Housing material	Steel
IP rating	IP 30
Mounting	19" rack frame
Operating conditions	
Temperature	10–40°C
Relative humidity	max. 90% (non condensing)
Storage temperature	-40–70°C

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4EVAC is a trade name of:

Hacousto Holland bv
Industrieweg 87
2651BC Berkel & Rodenrijs
The Netherlands

www.4EVAC.com