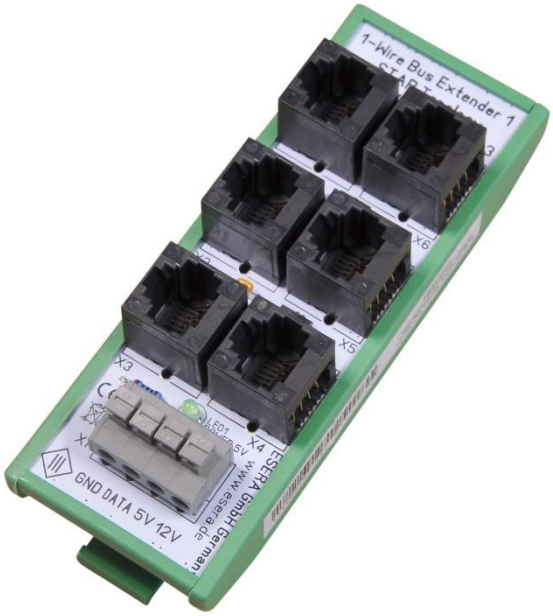
User guide
1-Wire Extender 1
Distribution module RJ45
for 1-Wire Bus system

Performance characteristics

- Distributor for 1-Wire Network with RJ45 connectors
- 6 x RJ45 modular sockets for output
- Input via connection via Push In terminal
- Distributor for 1-Wire network or telephone cable
- Standard compliant socket assignment
- Designed for top hat rail mounting
- Blocking capacitor for 5V power



Typical fields of application

- Sub-distributor for 1-Wire Network
- distribution cabinet
- Patch field for test setups
- Adapter from open cable ends to network cable

1 Introduction

Before you start mounting the 1-Wire Extender 1 and putting the device into operation, read these Mounting and Operating Instructions carefully until the end, especially the Safety Instructions section.

2 Product description

A CAT network cable is ideal for cabling a 1-Wire network. The 1-Wire Extender 1 builds on this point and provides a practical and small network distributor.
The 1-Wire Extender 1 is a very narrow network distributor based on a DIN rail. This saves valuable space in distribution cabinets. The narrow 1-Wire Extender 1 may also save an Ethernet patch panel, which is otherwise often used for 1-Wire Network cabling.

The 1-Wire Extender 1 greatly accelerates and extremely simplifies the installation and cabling of 1-Wire networks. It can be used, for example, in the area of a floor distribution as a star point of living area sensors of different rooms. The use of standard CAT network cables eliminates wiring errors caused by terminal connections or "luster terminals".
Our 1-Wire living area sensors with RJ45 connection and the 1-Wire Extender 1 form a coordinated cabling system.
The 1-Wire Extender 1 supports the tree or star topology. All RJ45 sockets are connected in parallel.

For coupling to control systems, we recommend the use of an ESERA 1-Wire Controller or 1-Wire Bus Coupler. The 1-wire controller in particular simplifies the software connection enormously due to the many automatic functions.
No software is required for this module.

3 Technical data

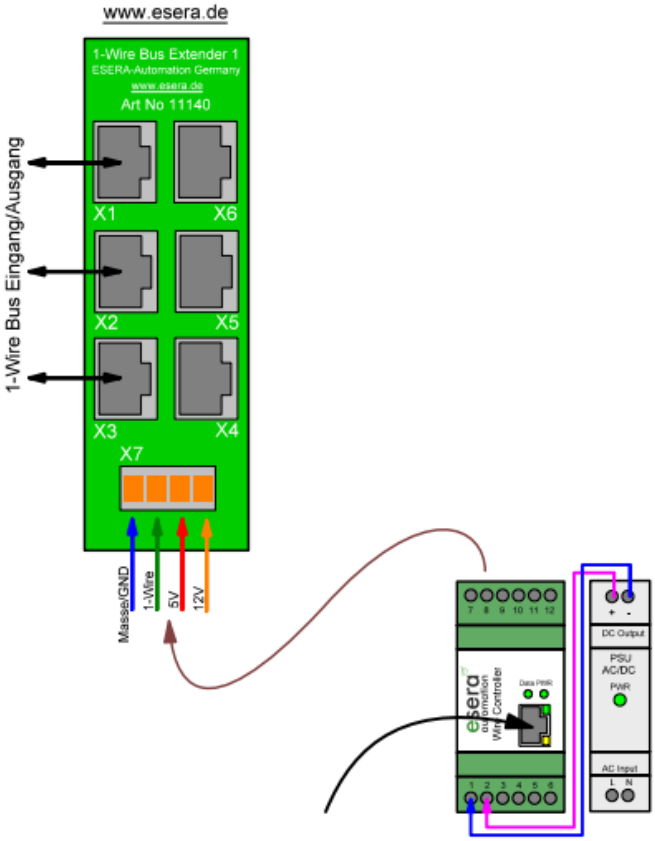
Function:	Push In terminal and all RJ45 sockets are connected in parallel.
Output:	6 x RJ45 sockets connected in parallel (5V, 12V, GND and Data)
Input:	Push In Terminal (12V, 5V, GND and Data)
Topology:	tree or star topology (all RJ45 sockets are connected in parallel)
Operating voltage:	5 VDC and 12VDC
Current max.:	max. 500mA
Protection circuits:	Overvoltage protection (5V line), ESD and reverse polarity protection
Temperature,Operation:	-20°C to +60°C
Air humitidy:	10 - 92% (non condensing)
Dimensions:	Housing 112x41x 35 (LxWxH)
Protection class:	III
Housing protect.class:	IP 00

4 Conformity

EN 50090-2-2
EN 61000-4-2, ESD
EN 61000-4-3, HF
EN 61000-4-4, Burst
EN 61000-4-5, Surge
EN 61000-6-1, interference immunity
EN 61000-6-3, Interference radiation
RoHS

5 Wiring diagram

The connection diagram is available as a separate document on the ESERA website in the article download section.



5.1 1-Wire Network Connection (Input/Output)

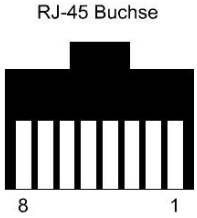
The Push In terminal (X7, screwless terminal) and the RJ45 modular socket (X8) are connected in parallel. This allows the input signal to be added via one of the two connectors. It is also possible to use the two connectors (X7 and X8) as adapters from network cables to single cables.
The 12V connection is only provided between the two connectors X7 and X8.

5.2 Assignment RJ45 socket (input/output)

The Push In terminal and the RJ45 socket are connected in parallel, which means that both connections can be used equally.

Sockets Assignment:

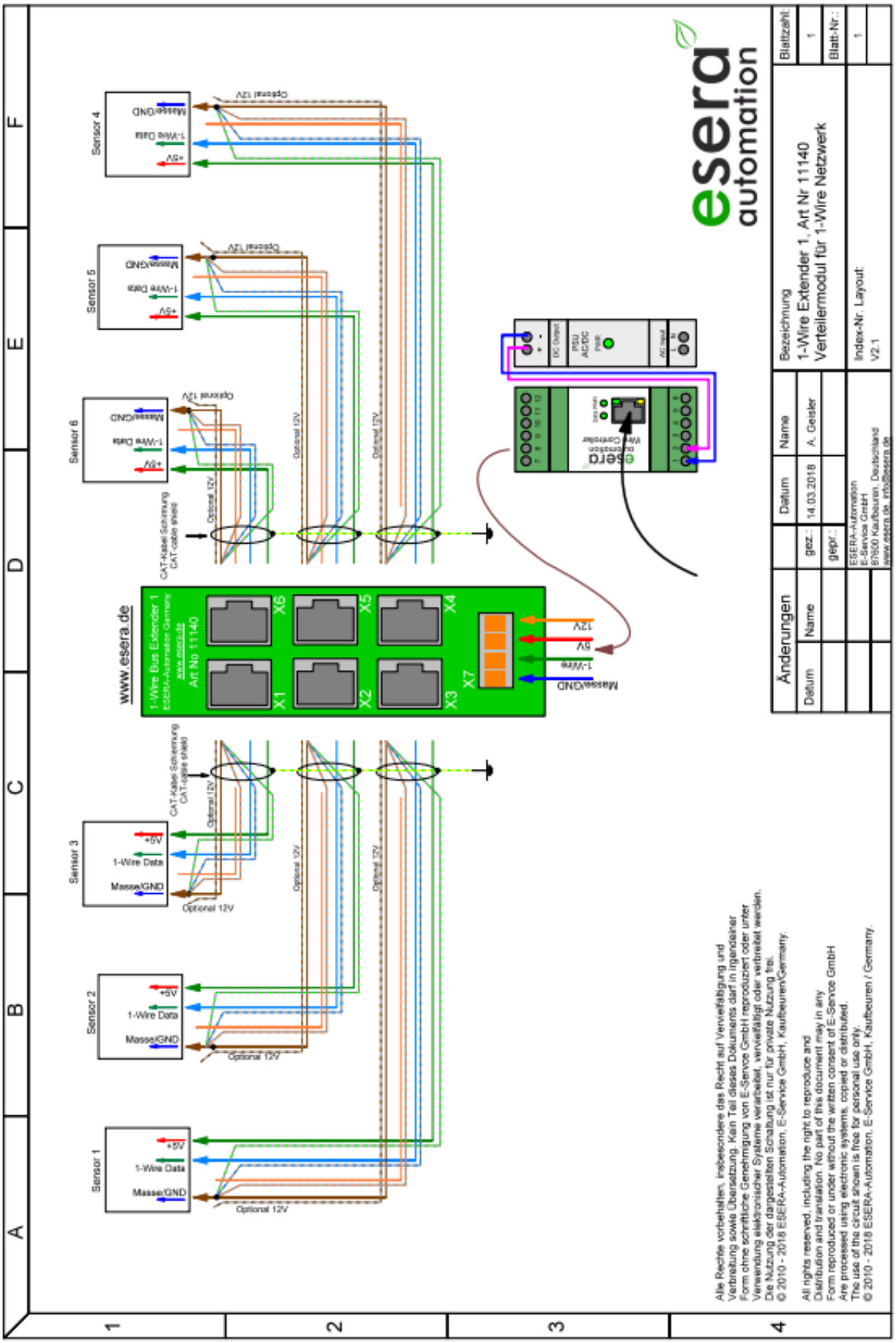
1	GND
2	+5V
3	GND
4	1-Wire Data
5	GND
6	unassigned
7	+12V
8	GND



6 1-Wire Network

Basics and tips for the 1-Wire bus system can be found on the ESERA website at
https://www.esera.de/1-wire-grundlagen/

7 Connection Example



8 Operating conditions

The module may only be operated at the specified voltages and ambient conditions. The device can be operated in any position. The device is intended for use in dry and dust-free rooms. If condensation is formed, allow at least 2 hours for the unit to acclimatize. The modules may only be put into operation under the supervision of a qualified electrician. The accident prevention regulations of the
Verband der gewerblichen Berufsgenossenschaften für elektrische Anlagen und Betriebsmittel
must be observed in commercial facilities.
Do not operate the module in an environment in which flammable gases, vapours or dusts are present or may be present.

9 Disposal instructions

Do not dispose of the device in domestic waste! Electronic devices must be disposed of at the local collection points for electronic waste in accordance with the Directive on Waste Electrical and Electronic Equipment!

10 Safety instructions

When using products that come into contact with electrical voltage, the valid VDE regulations must be observed, especially VDE 0100, VDE 0550/0551, VDE 0700, VDE 0711 and VDE 0860

- All final or wiring work must be carried out with the power turned off.
- Before opening the device, always unplug or make sure that the unit is disconnected from the mains.
- Components, modules or devices may only be put into service if they are mounted in a contact proof housing. During installation they must not have power applied.
- Tools may only be used on devices, components or assemblies when it is certain that the devices are disconnected from the power supply and electrical charges stored in the components inside the device have been discharged.
- Live cables or wires to which the device or an assembly is connected, must always be tested for insulation faults or breaks.
- If an error is detected in the supply line, the device must be immediately taken out of operation until the faulty cable has been replaced.
- When using components or modules it is absolutely necessary to comply with the requirements set out in the accompanying description specifications for electrical quantities.
- If the available description is not clear to the non-commercial end-user what the applicable electrical characteristics for a part or assembly are, how to connect an external circuit, which external components or additional devices can be connected or which values these external components may have, a qualified electrician must be consulted.
- It must be examined generally before the commissioning of a device, whether this device or module is basically suitable for the application in which it is to be used.
- In case of doubt, consultation with experts or the manufacturer of the components used is absolutely necessary.
- For operational and connection errors outside of our control, we assume no liability of any kind for any resulting damage.
- Kits should be returned without their housing when not functional with an exact error description and the accompanying instructions. Without an error description it is not possible to repair. For time-consuming assembly or disassembly of cases charges will be invoiced.
- During installation and handling of components which later have mains potential on their parts, the relevant VDE regulations must be observed.
- Devices that are to be operated at a voltage greater than 35 VDC / 12mA, may only be connected by a qualified electrician and put into operation.
- Commissioning may only be realized if the circuit is built into a contact proof housing.
- If measurements with an open housing are unavoidable, for safety reasons an isolating transformer must be installed upstream or a suitable power supply can be used.
- After installing the required tests according to DGUV / regulation 3 (German statutory accident insurance, https://en.wikipedia.org/wiki/German_Statutory_Accident_Insurance) must be carried out.

11 Warranty

ESERA GmbH guarantees that the goods sold at the time of transfer of risk to be free from material and workmanship defects and have the contractually assured characteristics. The statutory warranty period of two years begins from date of invoice. The warranty does not extend to the normal operational wear and normal wear and tear. Customer claims for damages, for example, for non-performance, fault in contracting, breach of secondary contractual obligations, consequential damages, damages resulting from unauthorized usage and other legal grounds are excluded. Excepting to this, ESERA GmbH accepts liability for the absence of a guaranteed quality resulting from intent or gross negligence. Claims made under the Product Liability Act are not affected.
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