datum electronics

Shaft Power Meter EEXI

Virtual LAN connectivity

Operating Manual V1.0

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Warranty

We warrant this product against defects in materials or workmanship for a period of 12 months (1) year from the date of purchase despatch.

In the event of a defect during the warranty period, the buyer should inform the seller immediately, allowing the seller all potential possibilities to remedy the issue remotely. Failure to resolve the issue remotely, the unit should be returned, freight (and all duties and taxes) prepaid by the Buyer to the authorised distributor or seller from where the hardware was purchased.

The Distributor or seller, at their discretion will either repair or replace (where authorised to do so) the defective hardware, and provide a full investigation report. The remedy will be presented to the buyer and if in agreement the hardware will be returned to the buyer with freight charges paid by the distributor or seller.

Limitation of warranty

The foregoing warranty shall not apply to defects resulting from:

1. Improper or inadequate maintenance by the buyer.

2. Unauthorised modification or misuse.

3. Operation outside the environmental specification of the product.

4. Mishandling or abuse.

The warranty set forth above is exclusive and no other warranty, whether written or oral is expressed or implied. We specifically disclaim the implied warranties of merchantability and fitness for a particular purpose.

Exclusive remedies

The remedies provided herein are the buyer's sole and exclusive remedies. In no event shall we be liable for direct, indirect, incidental or consequential damages (including loss of profits) whether based on contract, tort or any other legal theory.

Introduction

Please contact us if you need help, if you have a complaint, or if you have suggestions to help us improve our products or services.

If you contact us about a product you already have, please tell us the full model number and serial number, so that we can give you accurate and fast help.

This product has a 1 year warranty. We will put right or replace any meter which is faulty because of bad workmanship or materials. This warranty does not cover damage caused by misuse or accident.

If you return a unit for repair, please include a detailed description of the problem, and the name of a contact who we can refer to for any questions. Please mark for the attention of the QA Department.

Warranty

IMPORTANT

Warranty repairs or replacements are usually returned with a standard courier service. We do not offer compensation for losses caused by failure of this instrument.

If you do not agree with these conditions, please return this item in unused, condition, in its original packaging and we will refund the purchase price, excluding any carriage paid.

We always try to improve our products and services, so these may change over time. You should keep this manual safely, because future manuals, for new designs, may not describe this product accurately.

We believe these instructions are accurate, and that we have competently designed and manufactured the product, but please let us know if you find any errors.

Warnings

Please carefully read this manual and all warnings. Install the system ONLY when you are sure that you've covered all aspects.

Please ensure that ALL pre-requisites have been actioned prior to attempting installation of this hardware.

Check that the model number and supply voltage suit your application before you install the solution.

Connect the system according to current IEE regulations, IEC61010 & NFPA:70 National Electric Code in USA.

Power supplies to this equipment must have anti-surge (T) fuses.

Only clean the control panels front with a soft damp lint free cloth. Only lightly dampen with water.
Do not use any other solvents.

Ensure glands are fully tightened following connection into controller.

Ensure correct spacing and positioning of hardware as per the below guidelines.

It is best practise to run separate power and data cables, do not run power and data along the same cable.

Caution: There is a risk of electrical shock if this system is not properly installed

Caution: Risk of danger: Read the whole manual before you install this meter

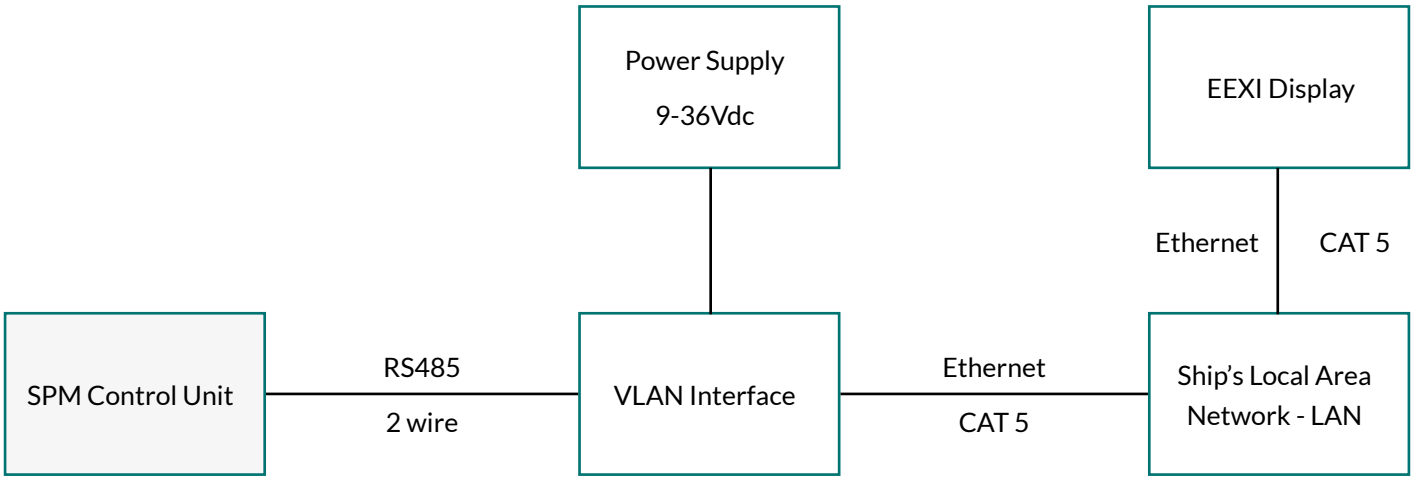
SAFETY

Obey all safety warnings in this manual, and install the hardware according to local wiring and installation regulations. Failure to follow these guidelines may cause damage to the hardware, connected equipment, or may be harmful to personnel.

Any moving mechanical device controlled by this equipment must have suitable access guards to prevent injury to personnel if the meter should fail.

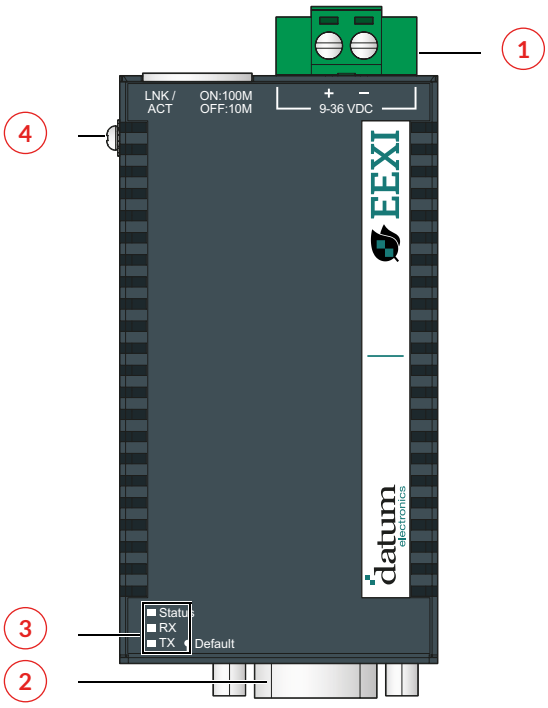
Shaft Power Meter EEXI Virtual LAN connectivity

The Shaft Power Meter (SPM) and EEXI display can be connected via the ship's LAN.

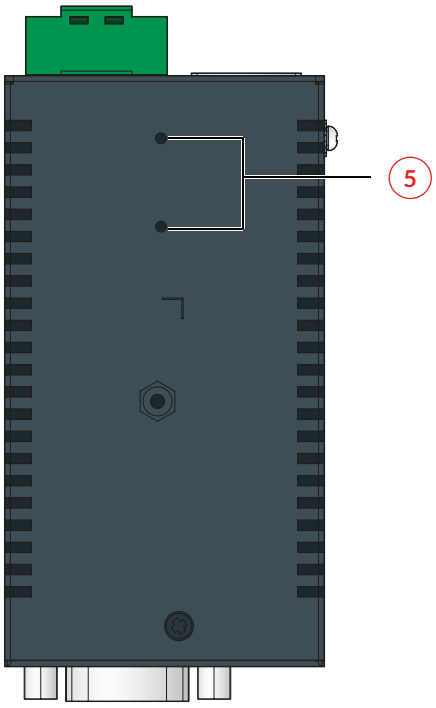


VLAN Interface Installation

Front View



Rear View

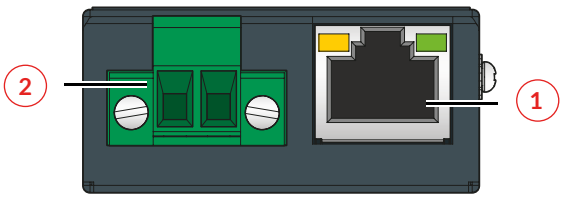


1. Terminal Block - Power
2. Serial Port DB9 RS 485
3. LED Indicators
4. Ground Terminal

5. M2 screws for mounting with DIN bracket

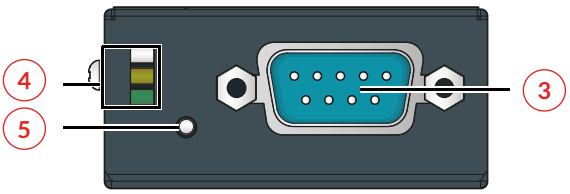
VLAN Interface Installation

Top View



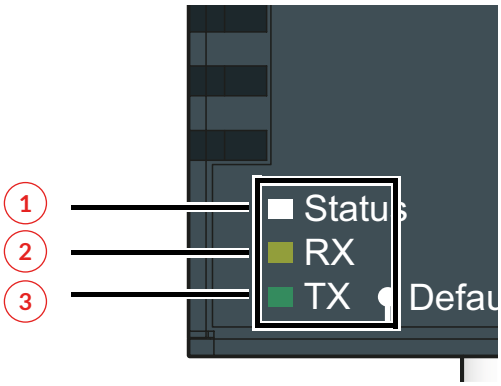
1. RJ45 Ethernet port
2. Power Terminal Block

Bottom View



3. DB9 RS 485
4. Reset Button
5. LED Indicators

LED Status Indicators



1. Status/Power
2. Receive Data
3. Transmit Data

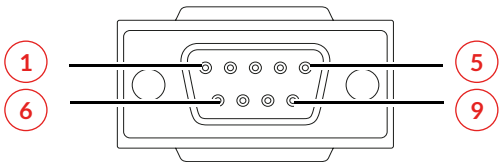
DIN Rail Mounting

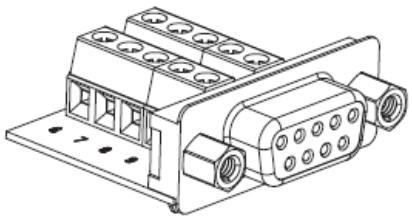
1. The metal DIN rail kit is secured to the rear of the VLAN.
2. A section of DIN rail is provided for mounting onto a flat surface within the console/cabinet.

Serial Connection

The VLAN interface provides a single RS-422/485 connector. The RS-422/485 pin assignments are illustrated as follows:

PIN	1	2	3	4	5	6	7	8	9
RS 485	DATA -			DATA+	GND				

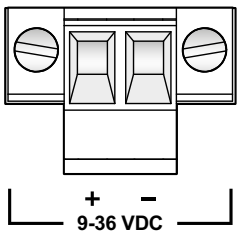




An adapter is provided to terminate site cabling.

Power Connection

1. Insert the power wire from DC power supply into the power contacts of the terminal lock connector on the EKI device.
2. Tighten the terminal screws to prevent the DC wires coming loose.
3. Switch on the DC power supply. If the interface is working properly, the blue power LED will light up, indicating that it is receiving power.



Connection to SPM Control Unit

Connect the SPM Control Unit using a RS 485 cable.
Eg. BELDEN type 9841

SPM	VLAN
Data +	Data +
Data -	Data -

EEXI Display Virtual Comport Configuration

The EEXI is configured to use a virtual comport to communicate with the SPM system. The SPM system should be fully commissioned and set to provide an RS485 output connected to the VLAN interface. All the equipment should be installed prior to configuration.

Starting the Configuration Utility

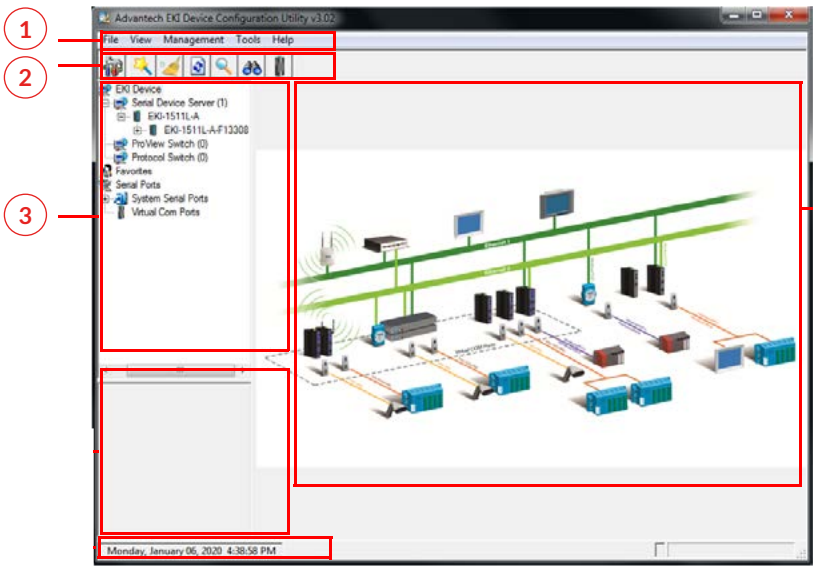
NOTE: You will need to run this as an ADMINISTRATOR. Contact Datum Electronics for assistance if you are unable to enable this function.

Configuration Utility will automatically search all the VLAN device servers on the network and show them on the Serial Device Server List Area of the utility.

The utility provides an auto-search function to show your device by simply executing the configuration utility program from the Start Menu.

You can click on the device name to show the features of the specific device. Click on the "+" before the model name, and the utility will expand the tree structure to show the individual device name. Click on the "-" before the model name, and the utility will collapse the tree structure.

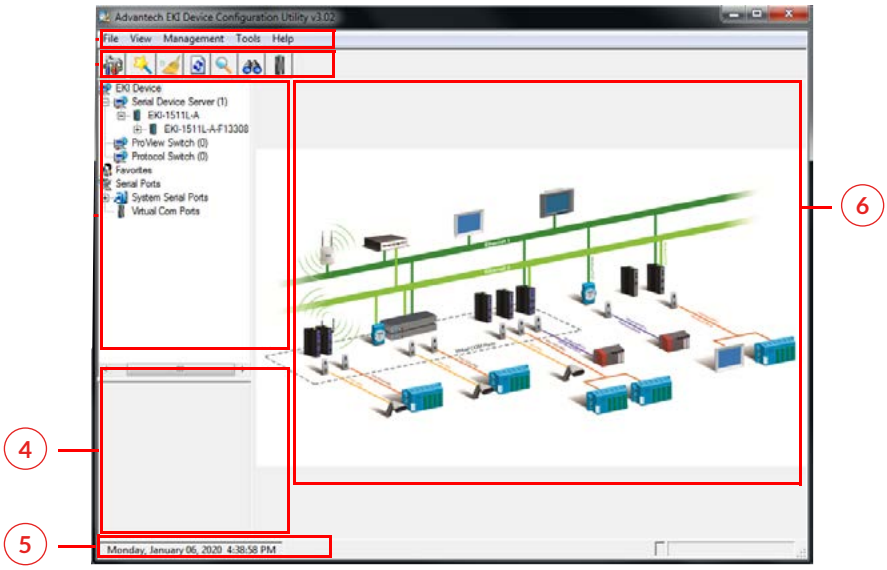
You can open the Configuration Utility from the Windows Start Menu by clicking Start > All Programs > EKI Device Configuration Utility > EKI Device Configuration Utility. The Configuration Utility displays as shown in the following figure.



1 Menu Bar
Displays File, View, Management, Tools and Help.

2 Quick Tool Bar
Useful management functions shortcuts.

3 Serial Device Server List Area
Available devices are listed in this area. Devices and COM port scan be organized or grouped in this area.



4 Information Panel

Click on the devices or move cursor to the devices, the related information is shown in this area.

5 Status Bar

Displays the current time.

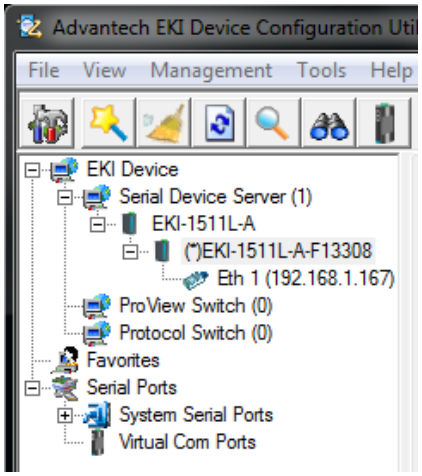
6 Configuration Area

Click on the item on the Device Server List Area, the configuration page displays.

Auto Searching

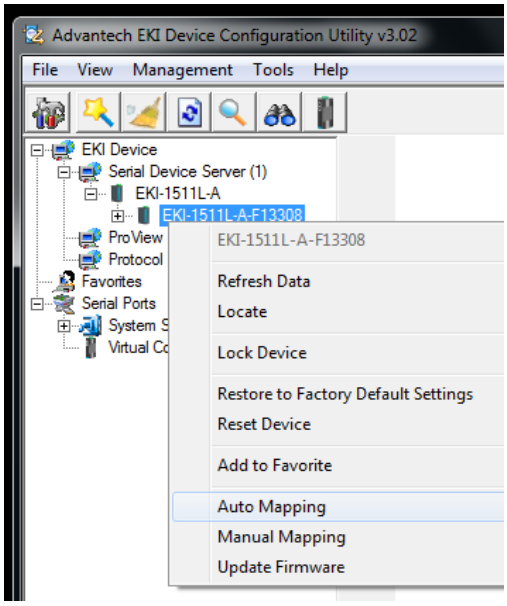
Serial Device Server Configuration Utility will automatically search all the EKI-1511 Series device servers on the network and show them on the Serial Device Server List Area of the utility. The utility provides an auto-search function to show your device by simply executing the configuration utility program from the Start Menu.

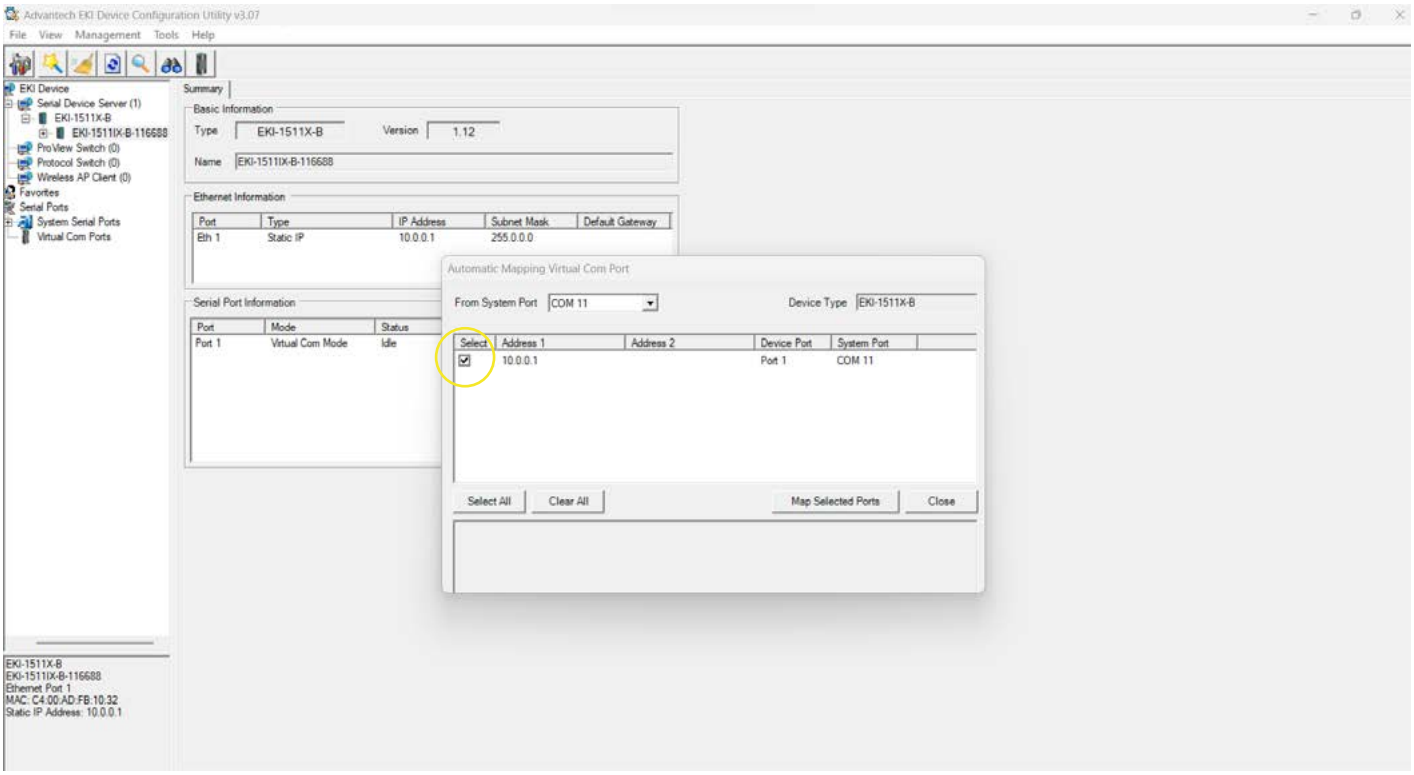
You can click on the device name to show the features of the specific device. Click on the "+" before the model name, and the utility will expand the tree structure to show the individual device name. Click on the "-" before the model name, and the utility will collapse the tree structure.



Select the target device and right-click on it to open up the options menu window

Locate Auto Mapping and select it.





Select COM 11 From System Port

Select ✓ for the device IP address listed. (see above image)

Select Map Selected Ports: **Mapping COM 11 to Address 192.168.16.154 Port 1 success**

NOTE: The default port for the SPM data on the EEXI dispaly is set to **COM 11.**

Follow instructions to set-up comports on EEXI display.

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VLAN Interface Specification

Maintenance

- Compatibility IEEE 802.3, IEEE 802.3u
- Speed 10/100 Mbps
- No. of Ports 1
- Port Connector 8-pin RJ45
- Protection Built-in 2.25 k VDC magnetic isolation

Serial Communications

- RS-485
- No. of Ports 1
- Port Connector DB9 male
- RS-485 2-wire: Data+, Data-, GND
- Protection Built-in 8 KV ESD for all signals

Software

- Driver Support 32-bit/64-bit Windows 2000/XP/ Vista/7/8/8.1/10,
- Windows Server 2003/2008/2012, and Linux
- Operation Modes COM port redirection mode (Virtual COM)
- Pair connection (peer to peer) mode
- Configuration Windows utility

Mechanics

- Dimensions (W x H x D) 46 x 85.1 x 21.2 mm (1.81" x 3.35' x 0.83')
- Enclosure Metal with solid mounting hardware
- Mounting DIN-rail, Wall
- Weight 0.127 kg

General

- LED Indicators System: Power, System Status/LAN: Speed, Link/Active, Serial: Tx, Rx

Power Requirements

- Input 9 ~ 36 VDC
- Connector Terminal block
- Consumption 1 W

Environment

- Operating Temperature -10 ~ 60 °C (14 ~ 140 °F)
- Storage Temperature -40 ~ 85 °C (-40 ~ 185 °F)
- Operating Humidity 10 ~ 95% RH

Regulatory Approvals

- EMC CE, FCC Part 15 Subpart B (Class A)

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MADE IN BRITAIN

CCS CHINA CLASSIFICATION SOCIETY 中国船级社

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