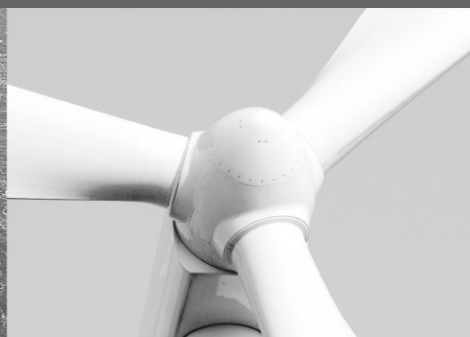




-power in control



QUICK START GUIDE



Multi Differential Relay, MDR-2

- What's in the delivery?
- Getting started
- The first steps
- PC utility software



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1. About this document

General purpose

This document is the Quick Start Guide for the Multi-line 2 product MDR-2. The general purpose of the document is to help the user with the first steps of installing and using the unit.



Please make sure that you also read the Designer's Reference Handbook before starting to work with the Multi-line 2 controller and the gen-set to be controlled. Failure to do this could result in human injury or damage to the equipment.

Intended users

This Quick Start Guide is mainly intended for the panel builder in charge. On the basis of this document, the panel builder designer will give the electrician the information he needs in order to get started to install the unit. For detailed electrical drawings, the Designer's Reference Handbook must be used.

Contents/overall structure

This document is divided into chapters, and in order to make the structure simple and easy to use, each chapter will begin from the top of a new page.

2. Warnings and legal information

This chapter includes important information about general legal issues relevant in the handling of DEIF products. Furthermore, some overall safety precautions will be introduced and recommended. Finally, the highlighted notes and warnings, which will be used throughout this document, are presented.

Legal information and responsibility

DEIF takes no responsibility for installation or operation of the generator set. If there is any doubt about how to install or operate the generator controlled by the unit, the company responsible for the installation or the operation of the set must be contacted.

The units are not to be opened by unauthorised personnel. If opened anyway, the warranty will be lost.

Electrostatic discharge awareness

Sufficient care must be taken to protect the terminals against static discharges during the installation. Once the unit is installed and connected, these precautions are no longer necessary.

Safety issues

Installing the unit implies work with dangerous currents and voltages. Therefore, the installation of the unit should only be carried out by authorised personnel who understand the risks involved in the working with live electrical equipment.



Be aware of the hazardous live currents and voltages. Do not touch any AC measurement inputs as this could lead to injury or death.

Definitions

Throughout this document a number of notes with helpful user information will be presented. To ensure that these are noticed, they will be highlighted in order to separate them from the general text.

Note symbol



The notes provide general information which will be helpful for the reader to bear in mind.

Warnings



The warnings indicate a potentially dangerous situation which could result in death, personal injury or damaged equipment if certain guidelines are not followed.

3. What's in the delivery?

Standard delivery

The main unit



Standard display unit, DU-2



Optional delivery

Display cable, 3 m (option J1)



Display cable, 6 m (option J2)



Display cable, 1 m (option J6)

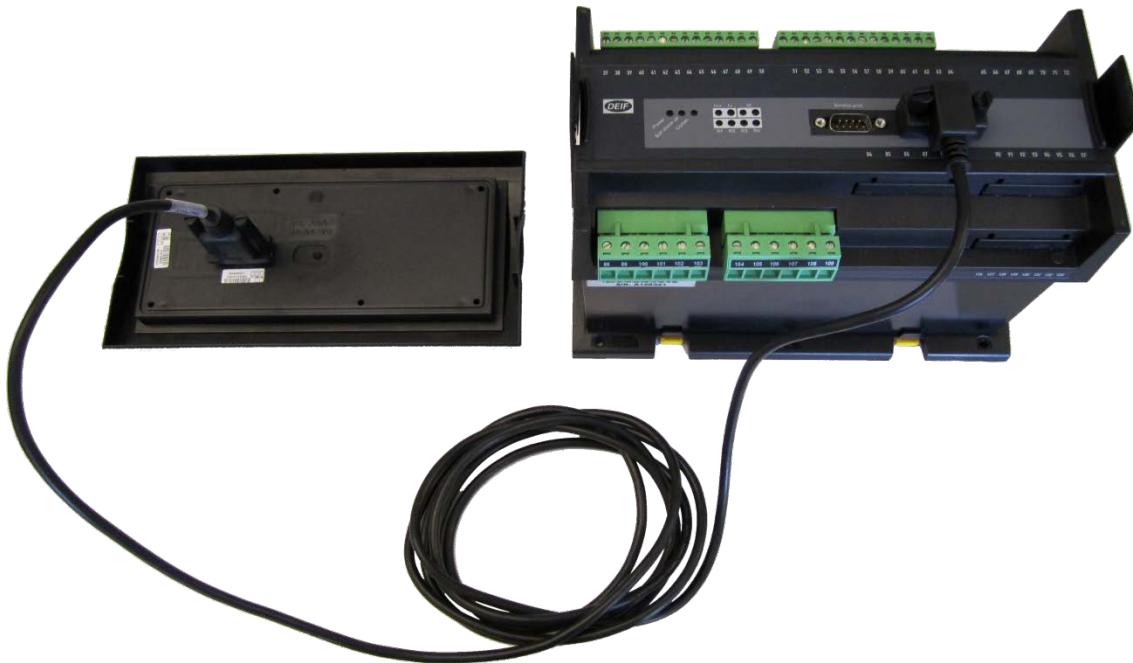


4. Getting started

Connecting the devices

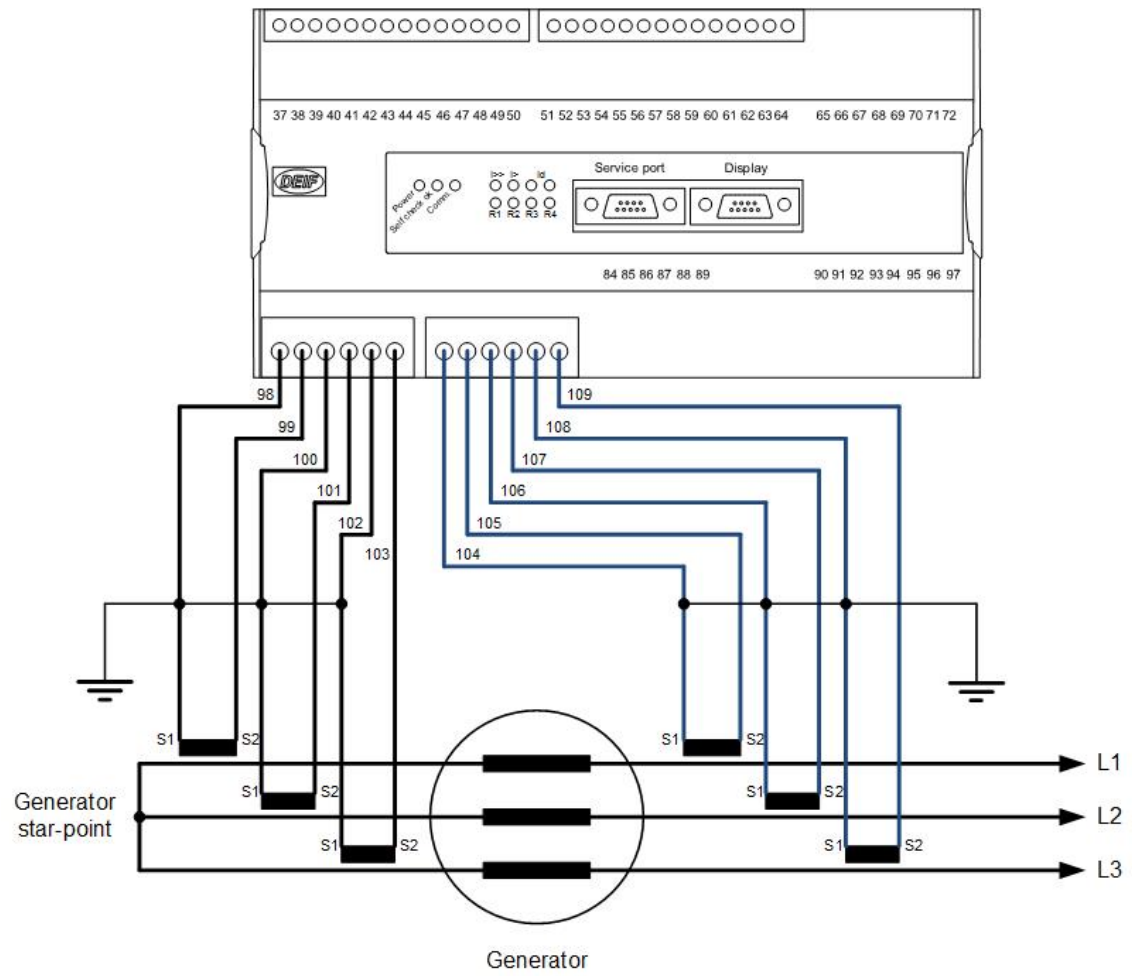
Connecting the display to the main unit

Connect the SUB-D display cable to the main unit and the display unit as shown in the below picture.

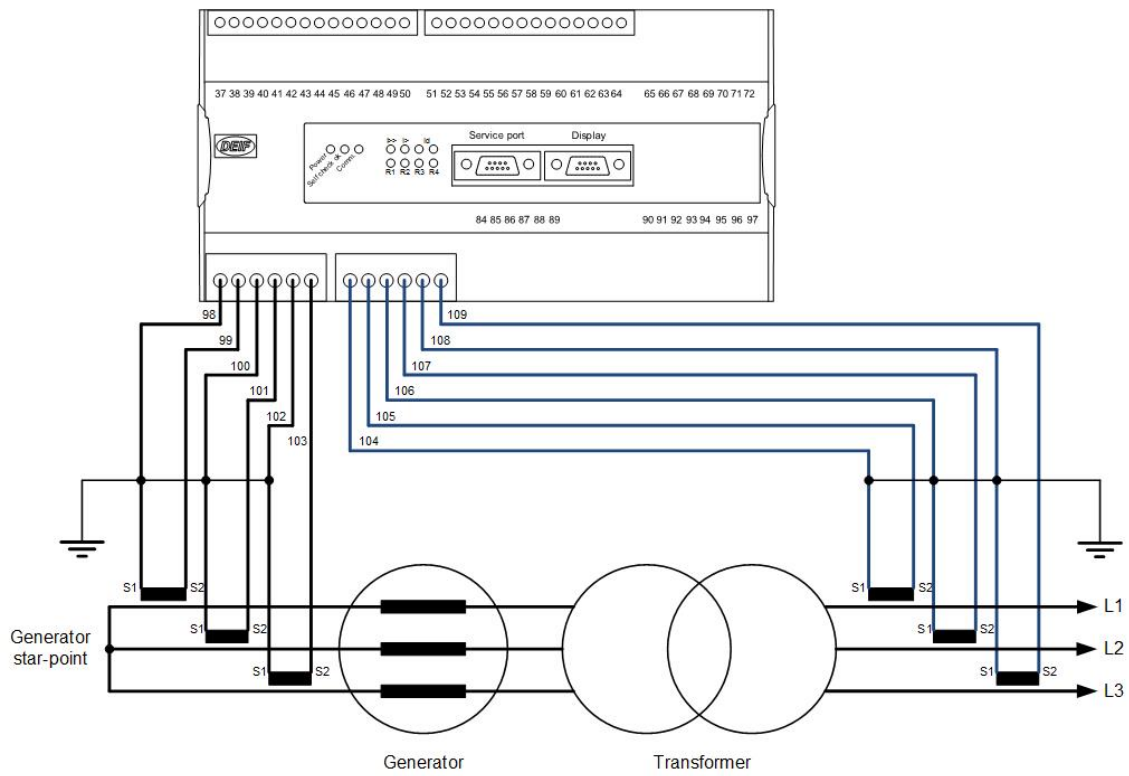


Basic wiring

AC wiring

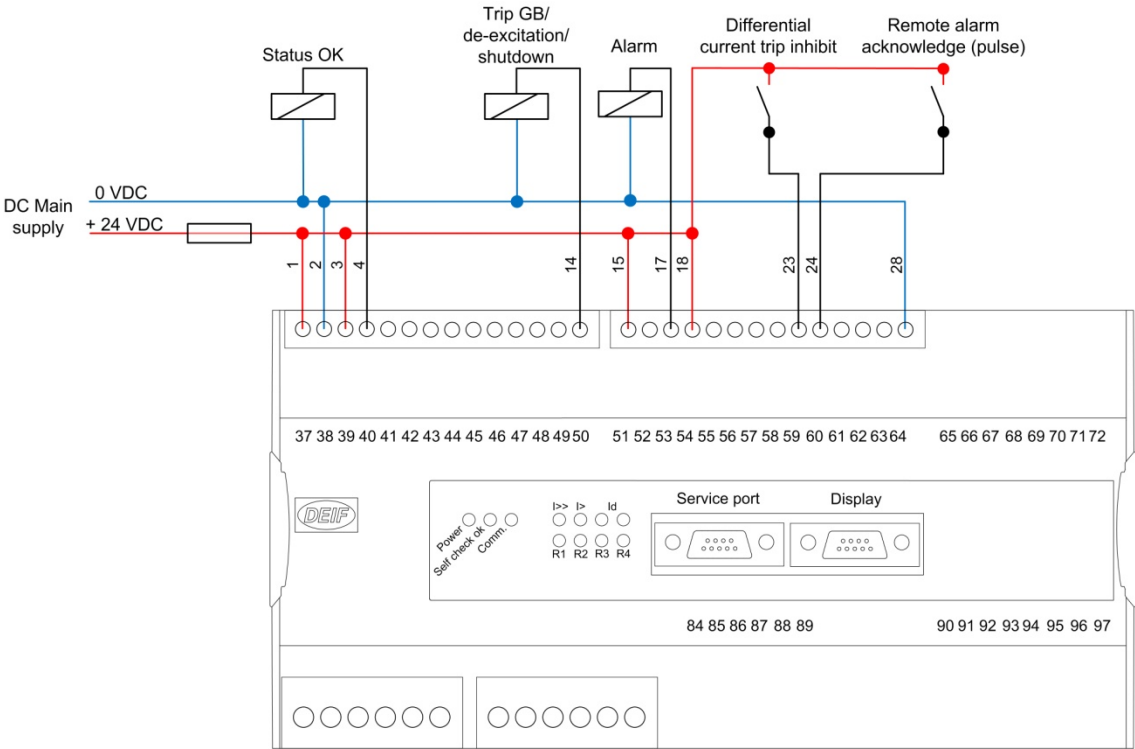


AC wiring – option C4



Only -1A CTs can be used with option C4.

DC wiring

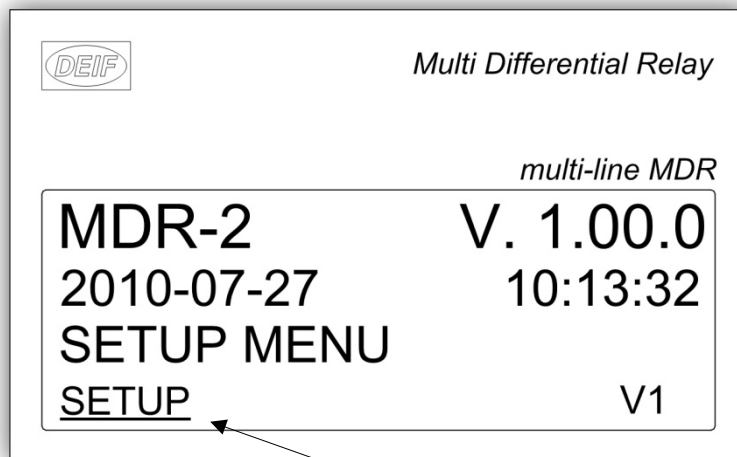


5. The first steps

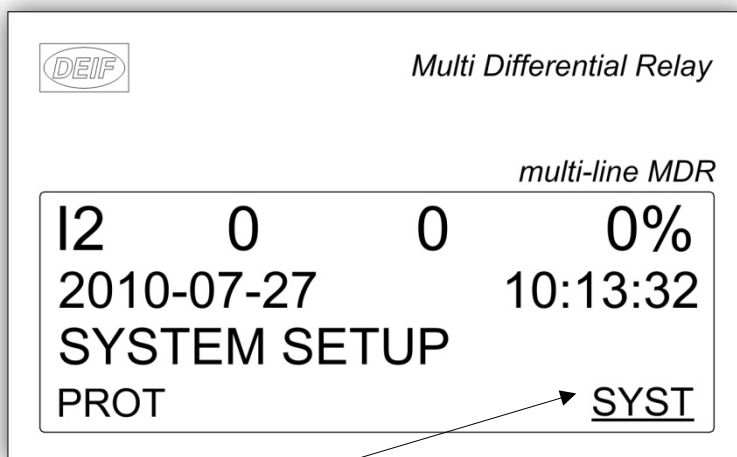
Basic AC values

This chapter guides you through the most essential parameters which have to be adjusted before you can start using the unit.

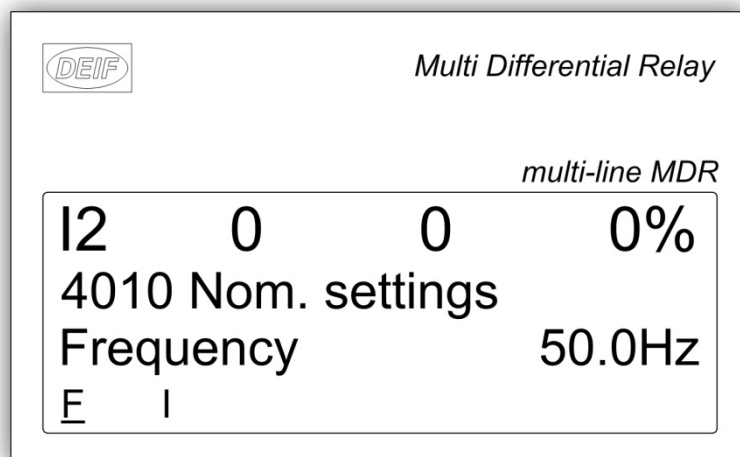
The setpoints can either be adjusted from the display unit or by using the DEIF utility software. The following examples will show how to adjust the parameters from the display unit.



All settings are reached by placing the cursor under SETUP (in the main page) and pressing ENTER .



Place the cursor under SYST and press ENTER .



Place the cursor under the setting you require and press ENTER .

Nominal settings

No.	Setting	Min. Max.	Factory setting	Notes	Ref.	Description
4010 Nominal settings						
4011	Nom. settings	Frequency	48.0 Hz 62.0 Hz	50.0 Hz		Designer's Reference Handbook
4012	Nom. settings	Current	1 A 10000 A	787 A		

To adjust the transformer settings, use the  or  push-button to get to the transformer page.

VT and CT settings

No.	Setting	Min. Max.	Factory setting	Notes	Ref.	Description
4020 Transformer						
6041	Transformer	Current primary	5 A 10000 A	1000 A		Designer's Reference Handbook
6043	Transformer	Current secondary	1 A 5 A	1 A		

6. PC utility software

Installation

1. Go to www.deif.com
2. Select "Download centre"
3. Select "Software download"
4. Select "Multi-line 2 Utility Software v.1.x" in the dropdown list
5. Fill in your e-mail address and click "Submit".

Subsequently, you will receive an e-mail containing a link. Click the link and follow the instructions to install the programme.

Getting connected to the unit

Connect the service port to the RS232 serial port on the computer (option J3 required).

Click the “Utility Software 1” icon on the desktop or in the Windows Start menu.

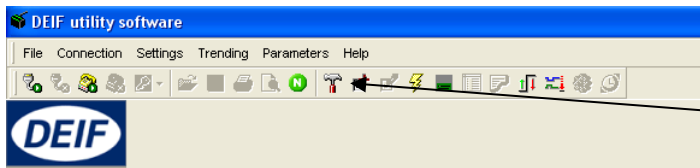
Desktop icon:



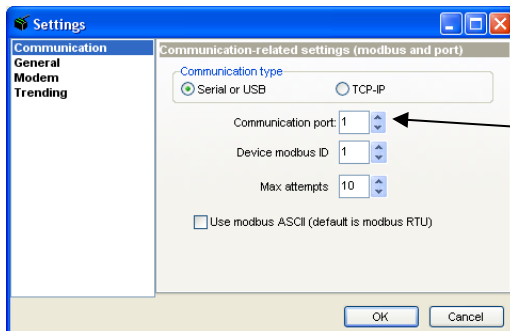
Quick launch and Start menu icon:



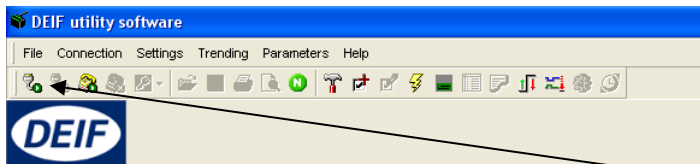
The below window appears.



Open the application settings by clicking this icon:



Check the COM-port used for communication, and make sure the settings correspond to the application settings.



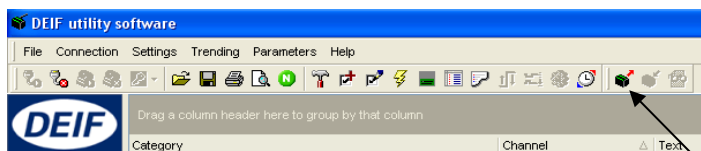
To start communicating with the device, click the “Connect icon”:



Read parameters from the device



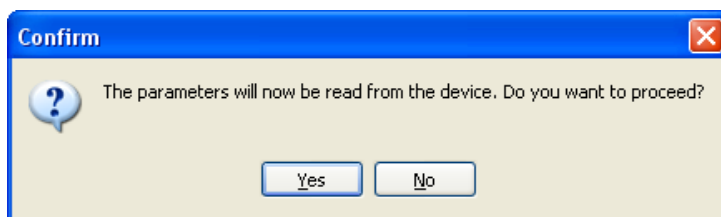
Open the Parameter list



Click the "Upload parameters" icon



The following screen will appear:



Select "Yes" to start the parameter transfer.

After retrieving all the parameters, the device is ready to be configured.

Basic configuration of a device using the utility software

When the parameters have been uploaded, the screen will look like below:

Category	Channel	Text	Address	Value	Unit	Timer	OutputA	OutputB	Enabled	High alarm
Protection		1010 DMI Current Ith	1	100%	%		0.7	0	1	
Protection		1011 DMI cur V1Vh	2	25%	%		10%	10%	10%	
Protection		1012 DMI cur V2Vh	3	65%	%		10%	10%	10%	
Protection		1020 DMI current I	4	100%	%		0.7	4	5	
Protection		1021 DMI cur I	5	100%	%		10%	10%	10%	
Protection		1022 DMI cur V1Vh	6	25%	%		10%	10%	10%	
Protection		1023 DMI cur V2Vh	7	25%	%		10%	10%	10%	
Protection		1030 DMI Fuse F	8	100%	%		0.05	4	5	
System		4011 Nom. Frequency	26	50	Hz		10%	10%	10%	
System		4012 Nom. Current	27	757	A		10%	10%	10%	
System		4021 Current gain	28	1000	A		10%	10%	10%	
System		4022 Current loss	29	1	A		10%	10%	10%	
System		4220 Battery low V	33	10	V	1	0	0	0	
System		4231 Language	34	0			10%	10%	10%	
System		4301 Status into LED	35	10%	%		10%	10%	10%	
System		4310 Auto ACK	36	10%	%		2	10%	10%	
System		4019 Password	37	10%	%		10%	10%	10%	

Nominal frequency

Double-click menu 4011 “Nom. Frequency” and the below pop-up will appear:

Parameter: "Nom. Frequency" (Channel 4011)

Setpoint:

48 62

☐ Enable

☐ High Alarm

☐ Inverse proportional

☐ Cable supervision

☐ Auto acknowledge

☐ Custom inhibit

Click this or use the slide bar to adjust the nominal frequency.

After adjusting the frequency, click “Write” and “OK”.

The nominal frequency has now been changed and downloaded to the device.

Use the same procedure to adjust nominal current (menu 4012) and CT ratio (menu 4021 and 4022).



For information about additional settings, please refer to the “Designer’s Reference Handbook”, document no. 4189340300.

DEIF A/S reserves the right to change any of the above.