

USER
MANUAL

DIRIS D-30 DIRIS Digiware D-40 DIRIS Digiware D-50

Control and power supply interface

EN



www.socomec.com/en/diris-d

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1. DOCUMENTATION

All documentation on DIRIS D-30 and DIRIS Digiware D-40/D-50 is available on the SOCOMEC website:
www.socomec.com/en/diris-d



2. HAZARDS AND WARNINGS

The term "device" used in this document covers both DIRIS D-30, DIRIS Digiware D-40 and DIRIS Digiware D-50

The assembly, use, servicing and maintenance of this equipment must only be carried out by trained, qualified professionals.

SOCOMEK shall not be held responsible for failure to comply with the instructions in this manual.

2.1. Risk of electrocution, burns or explosion

- This device must only be installed and serviced by qualified personnel who have in-depth knowledge of installing, commissioning and operating the device and who have had appropriate training. He or she should have read and understood the various safety measures and warnings stated in the instructions.
- Before starting any type of work on the device, switch it off and disconnect it from the mains.
- Always use an appropriate voltage detection device to confirm the absence of voltage.
- Replace all devices, doors and covers before connecting the device to the power again.
- Always power the device with the correct rated voltage.
- Install the device in accordance with the recommended installation instructions and in a suitable electrical cabinet.

Failure to take these precautions could cause serious injuries or death.

2.2. Risk of damaging the device

To ensure that the device operates correctly, make sure that:

- The device is correctly installed.
- The auxiliary power supply voltage indicated on the device is observed: 24 VDC \pm 10%
- Use 230 VAC / 24 VDC SOCOMEK or use a 1 A 24 VDC safety fuse.

Failure to respect these precautions could cause damage to the device.

2.3. Liability

- Assembly, connection and use must be carried out in accordance with the installation standards currently in force.
- The device must be installed in accordance with the rules given in this manual.
- Failure to observe the rules for installing this device may compromise the device's intrinsic protection.
- The device must be positioned within an installation which complies with the standards currently in force.
- Any cable which needs to be replaced may only be replaced with a cable having the correct rating.

3. PRELIMINARY OPERATIONS

To ensure the safety of personnel and the device, please carefully read the contents of these instructions before installation.

Check the following points as soon as you receive the package containing the device:

- The packaging is in good condition,
- The device has not been damaged during transportation,
- The device reference number conforms to your order,
- The packaging includes the device fitted with removable terminal blocks and a Quick start guide.

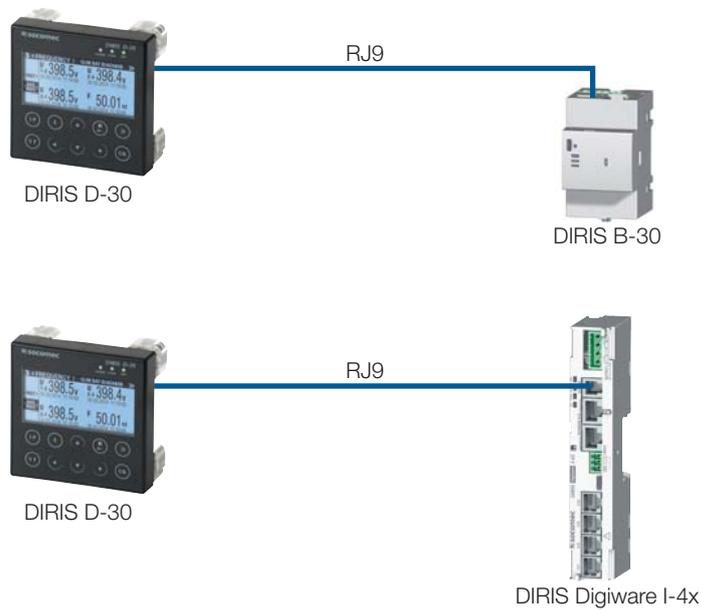
4. INTRODUCTION

4.1. Range

	
<p>DIRIS D-30 Single-point display Ref. 4829 0200</p>	<p>DIRIS Digiware D Multipoint display DIRIS Digiware D-40 Ref. 4829 0199 DIRIS Digiware D-50 Ref. 4829 0201</p>

4.2. Introduction to DIRIS D-30

DIRIS D-30 is a local single-point display connected to the measuring device DIRIS B-30 or DIRIS Digiware I-4x via a RJ9 cable (1.50m cable reference: 4829 0280 - 3m cable: 4829 0281). The screen is powered through the RJ9 cable.



4.3. Introduction to DIRIS Digiware D

The DIRIS Digiware D-40 and DIRIS Digiware D-50 displays are shared between DIRIS Digiware counters and measuring units.

They can also display measurements from other SOCOMEC counters and measuring units: COUNTIS, DIRIS A, DIRIS B.

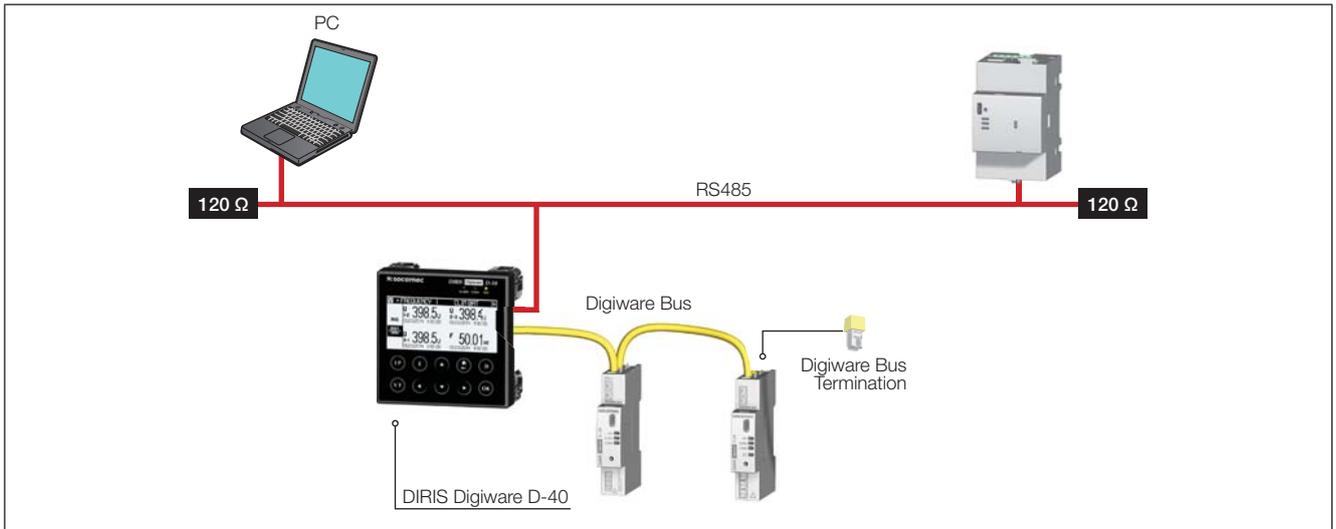
They centralise data from up to 32 devices (a maximum of 186 outputs).

These devices may be connected by a Digiware bus and/or an RS485 bus.

Centralised devices can be shown as well as configured by DIRIS Digiware D displays.

4.3.1. Introduction to DIRIS Digiware D-40

A DIRIS Digiware D-40 display is a slave device on the RS485 bus and master on the DIRIS Digiware bus.

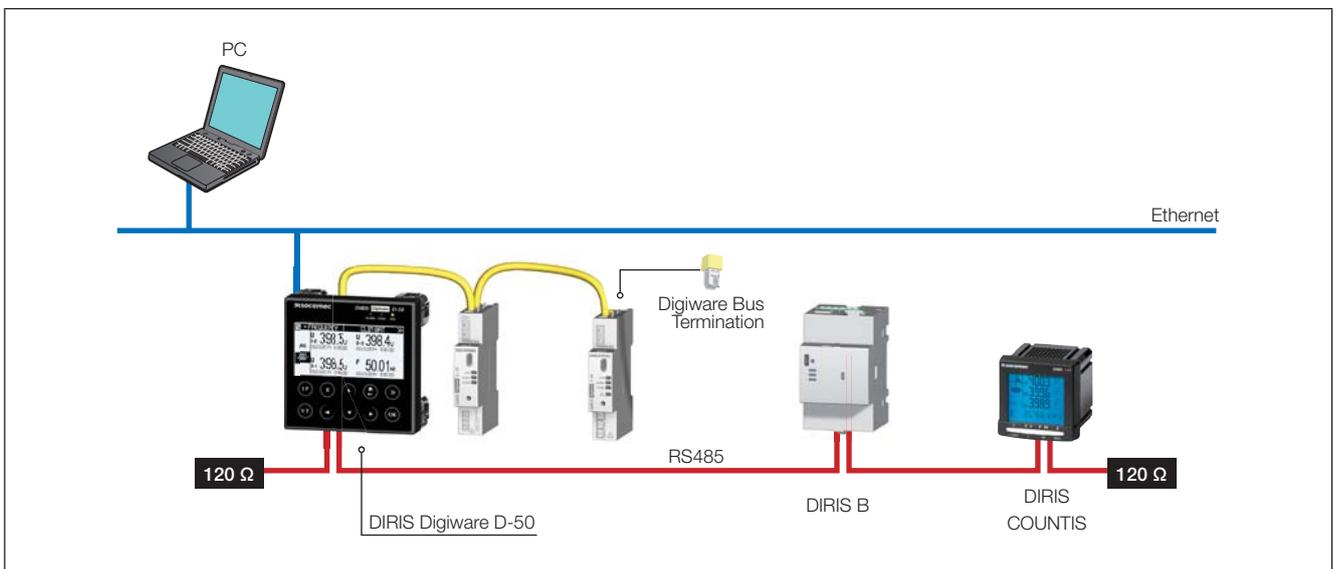


4.3.2. Introduction to DIRIS Digiware D-50

A DIRIS Digiware D-50 display is a master device on the RS485 bus and master on the DIRIS Digiware bus. It is used like an Ethernet gateway.

The Ethernet port is for:

- Using the Ethernet network in ModbusTCP (max. 4 simultaneous connections) to share all the data taken from the counters and measuring units connected to its Digiware and RS485 ports.
- Displaying on DIRIS Digiware D-50 the data taken from remote devices connected to the local Ethernet network.



4.4. Touchscreens

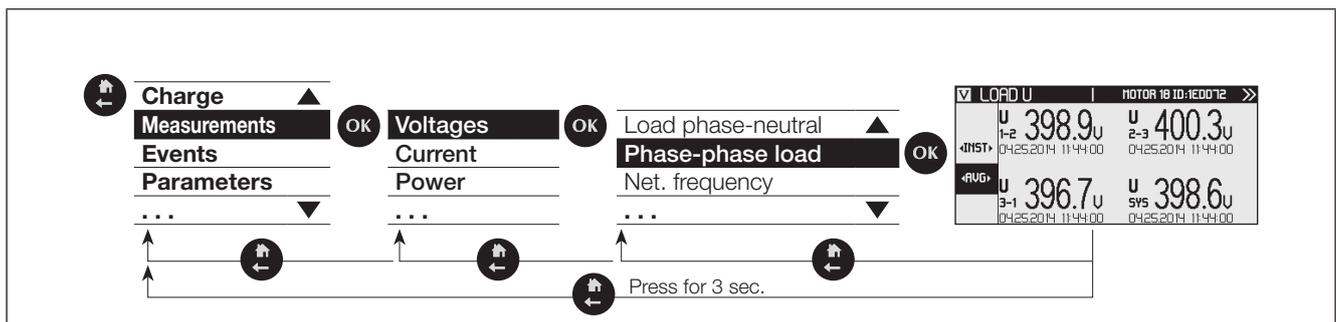
The display consists of a screen and 10 shortcut keys:

	Shortcut keys for load measurements: current, active power, reactive power, apparent power, power factor, cosinus phi
	Shortcut keys for electrical network measurements: single voltage, composite voltage, frequency
	Shortcut keys for active, reactive, apparent power counters (total and partial readings)
	Arrow keys for navigation
	Use this to go up a level in the DIRIS Digiware D-50 display navigation menus
	Use this to go to the previous/next device (to scroll through all your counters and centralised measuring units)
	Use this to confirm your navigation or entry selection

4.5. LED display

	<p>ALARM</p> <ul style="list-style-type: none"> - Off: no alerts in progress - On: alert in progress or alert finished without being acknowledged for the device currently being viewed. <p>COM</p> <ul style="list-style-type: none"> - Off: no communication - Flashing: communication in progress on the RS485 and/or DIGIWARE bus <p>ON</p> <ul style="list-style-type: none"> - Off: device is off - On: device working OK
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4.6. Navigation

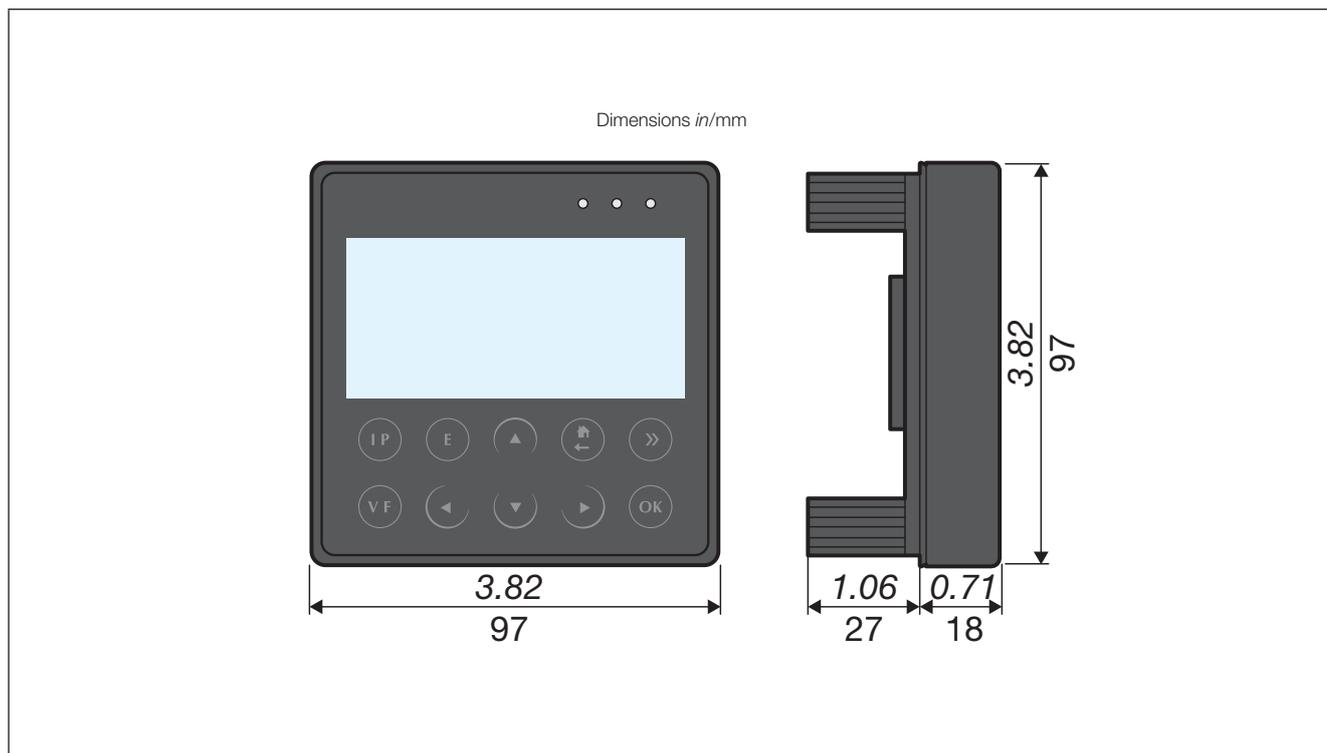


4.7. Menu structure

Menu structure			D-30	D-40	D-50
Load			•	•	•
Measurements	Voltages	Load line - neutral	•	•	•
		Load line - neutral	•	•	•
		Net. frequency	•	•	•
		Net. line - neutral	•	•	•
		Net. line - neutral unbalanced	•	•	•
		Net. line - neutral THD	•	•	•
		Net. line - neutral harmonic	•	•	•
		Net. line - line	•	•	•
		Net. line - line unbalanced	•	•	•
		Net. line - line THD	•	•	•
		Net. line - line harmonic	•	•	•
	Currents	Currents	•	•	•
		Currents system	•	•	•
		Unbalanced currents	•	•	•
		Currents THD	•	•	•
		Currents harmonics	•	•	•
	Powers	Active powers	•	•	•
		Reactive powers	•	•	•
		Apparent powers	•	•	•
		Predictive power	•	•	•
		Power factors	•	•	•
		Cos Phi	•	•	•
		Tan Phi	•	•	•
	Energies	Positive active energies	•	•	•
		Negative active energies	•	•	•
		Positive reactive energies	•	•	•
		Negative reactive energies	•	•	•
		Positive/negative inductive/capacitive reactive energies	•	•	•
		Apparent energies	•	•	•
	RESET all Min/Max values	•	•	•	
Events	In progress	•	•	•	
	History	Alarms, quality	•	•	•
Parameters	Display	Language	•	•	•
		Date format	•	•	•
		Digiware Addressing Range		•	
		Slave RS485: <i>Baudrate, stop, parity, address</i>		•	
		Master RS485: <i>Baudrate, stop, parity, address</i>			•
		Ethernet communication: <i>DHCP, IP address, mask, gateway</i>			•
		Setting the date/time on the remote product Date/Time: <i>Activation</i> - manual setting	•	•	•
		<i>SNTP (server IP address, server port, time zone, Send settings)</i>	•	•	•
		Change password	•	•	•
	Configure a device	<i>Network, loads</i>	•	•	•
	Autodetect serial devices	Status, found devices, address conflicts, start		•	•
	List products			•	•
	Add new device	Type of device, address		•	•
	Remove device			•	•
About	IP address			•	
	MAC address			•	
	Serial number		•	•	•
	Software version		•	•	•
	Reboot		•	•	•

Note: the menus available depend on the device features.

4.8. Dimensions



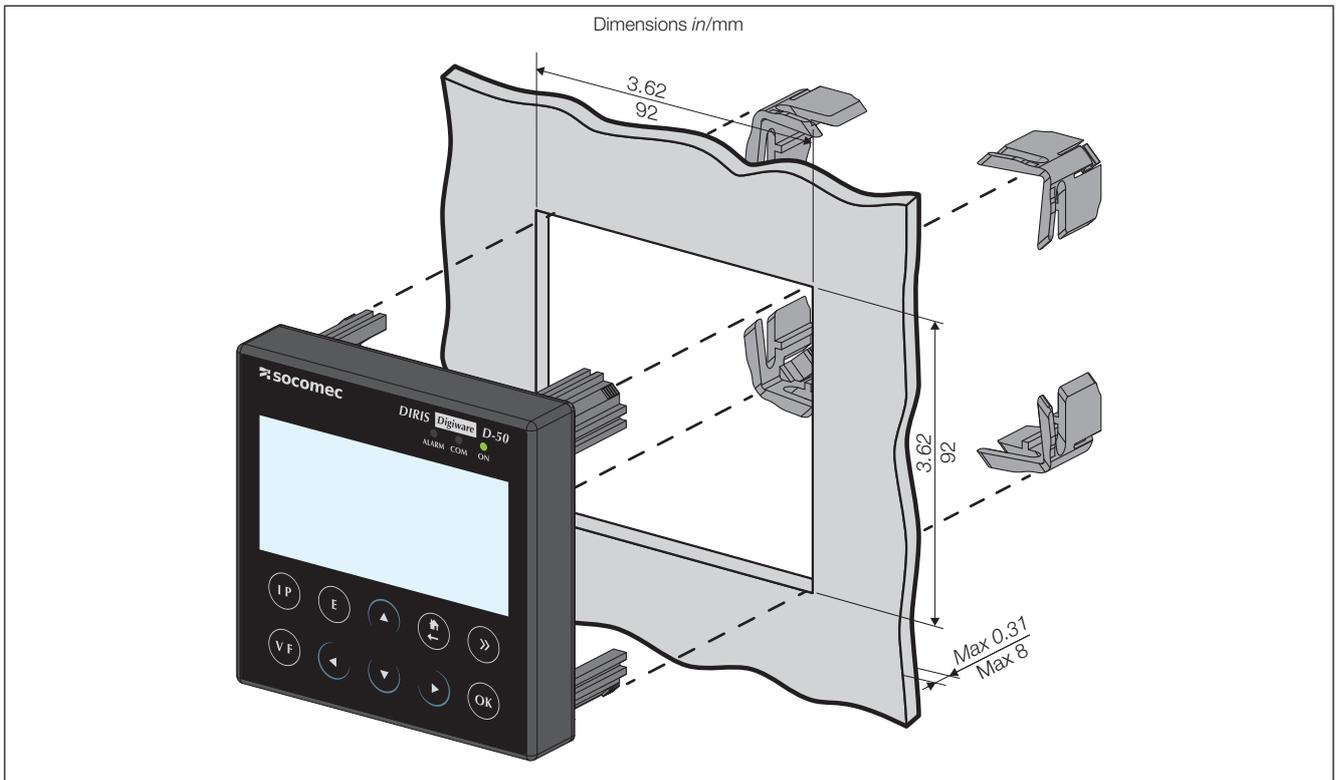
5. MOUNTING

5.1. Recommendations and safety

Refer to the safety instructions (section “2. Hazards and warnings”, page 4)

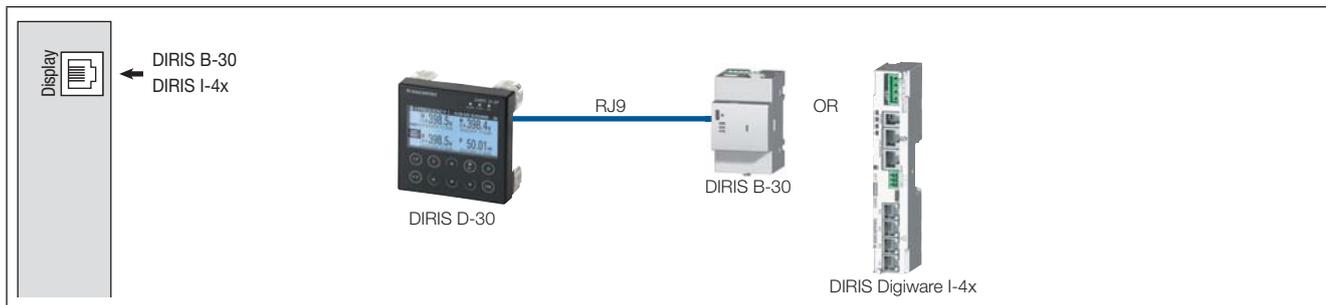
5.2. Back-plate mounting

DIRIS D-30 and DIRIS Digiware D are board-mounted (slot: 92x92mm). The display is secured with clips.

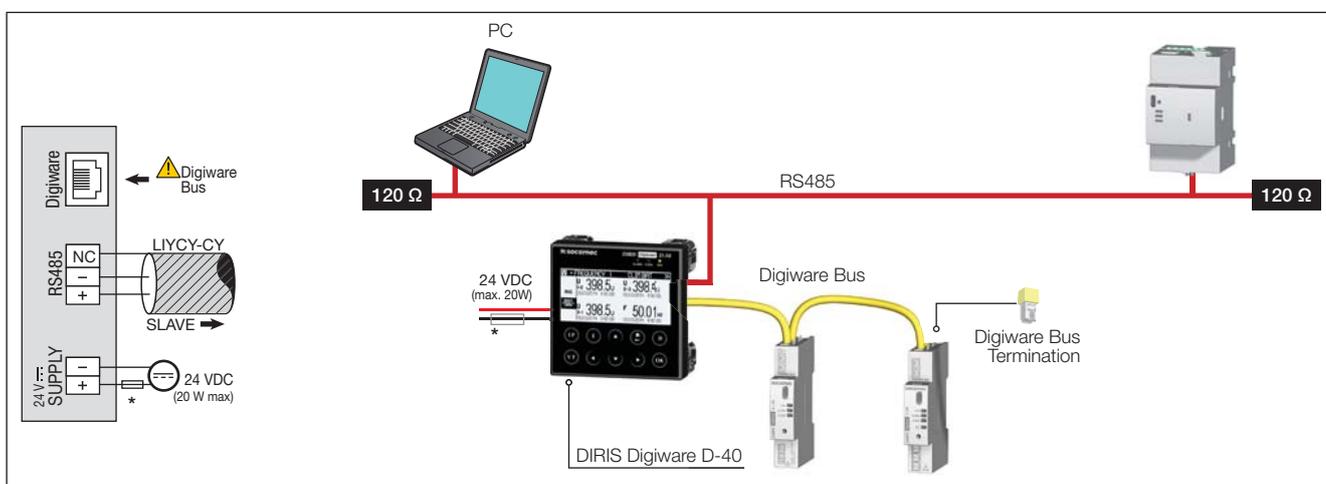


6. CONNECTION

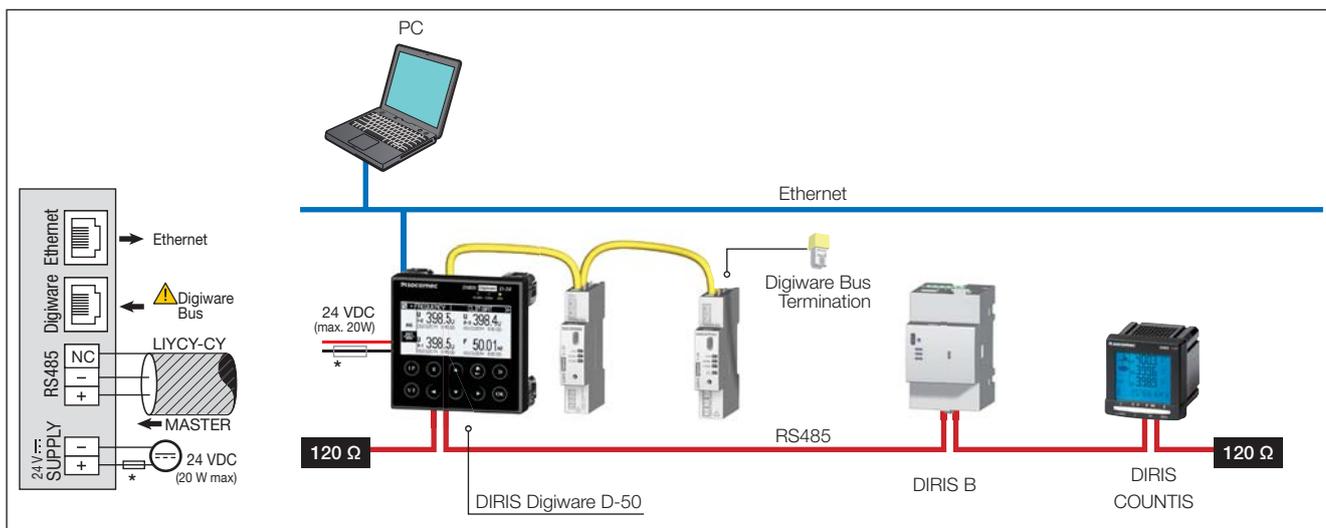
6.1. DIRIS D-30 - wiring



6.2. DIRIS Digiware D-40 - wiring



6.3. DIRIS Digiware D-50 - wiring



Comment: On DIRIS Digiware D-40 and D-50, class B in radiated power is obtained using ferrites (part no. 4829 0048) with the following number of rounds:

- RS485: 1 round
- Ethernet: 2 rounds
- Power: 1 round

(*) 24 VDC 1A fuse if using a non-SOCOMECC supply

7. CONFIGURATION

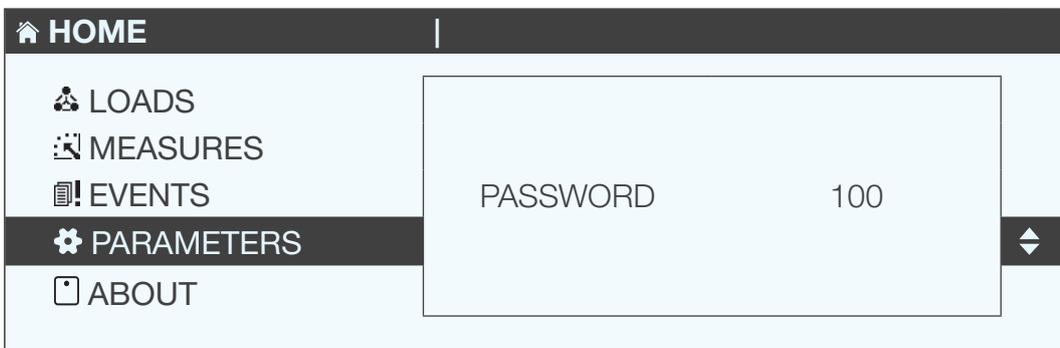
To return to the navigation menu, press "OK" to call up the various menus:



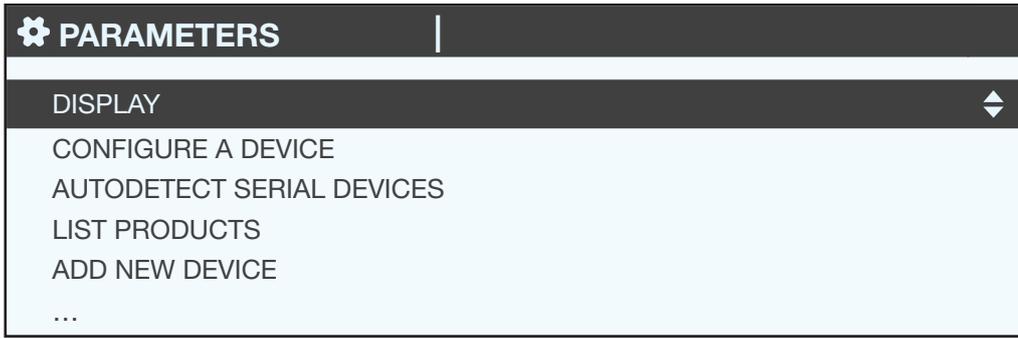
Select the "PARAMETERS" menu (the device's default language is English) by using the navigation key "DOWN ARROW" 3x and confirm with "OK":



Enter the password "100" using the arrow pad (4 arrow keys) and confirm with "OK":



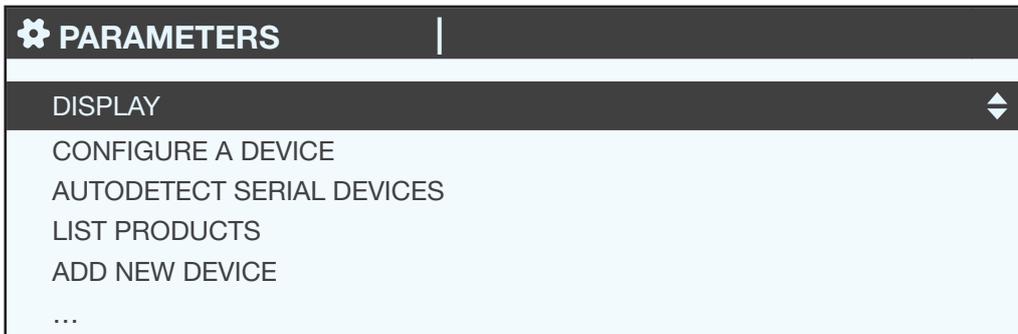
You can access 3 main settings:



- Display-specific settings
- List of counters and measuring units to centralise on the DIRIS Digiware D display
- Settings of the counters and centralised measuring units

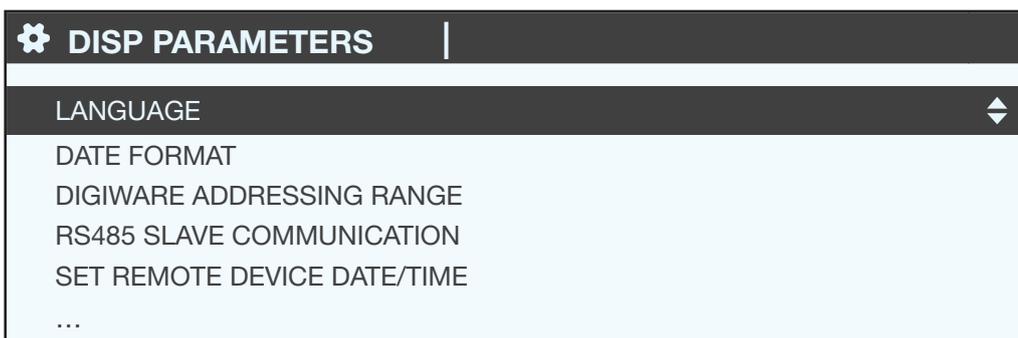
7.1. Specific display settings

When going back to the "DISPLAY" menu, press "OK" to confirm.



7.1.1. DIRIS Digiware D-40

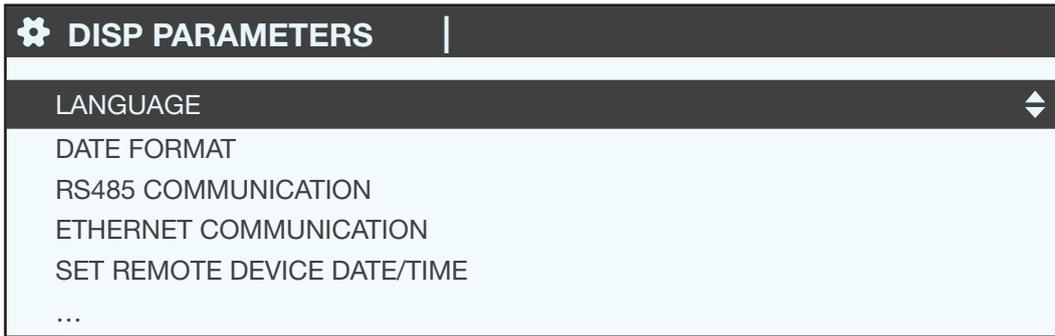
To access the various specific display settings:



- LANGUAGE: to set the display's navigation language
- DATE FORMAT: to set the date/time format
- DIGIWARE ADDRESSING RANGE: this setting is described in section "7.2.2. DIRIS Digiware D-40", page 22
- RS485 SLAVE COMMUNICATION: to set the RS485 bus communication
- SET REMOTE DEVICE DATE/TIME: to set the date and time
- CHANGE PASSWORD: to change the password to access the settings menu (default: "100")

7.1.2. DIRIS Digiware D-50

To access the various specific display settings:



- LANGUAGE: to set the display's navigation language
- DATE FORMAT: to set the date/time format
- RS485 COMMUNICATION: to set the RS485 bus communication and Digiware
- ETHERNET COMMUNICATION: to set the display's IP address
- SET REMOTE DEVICE DATE/TIME: to set the date and time
- CHANGE PASSWORD: to change the password to access the settings menu (default: "100")

7.1.3. Language

You can change the display's navigation language here.

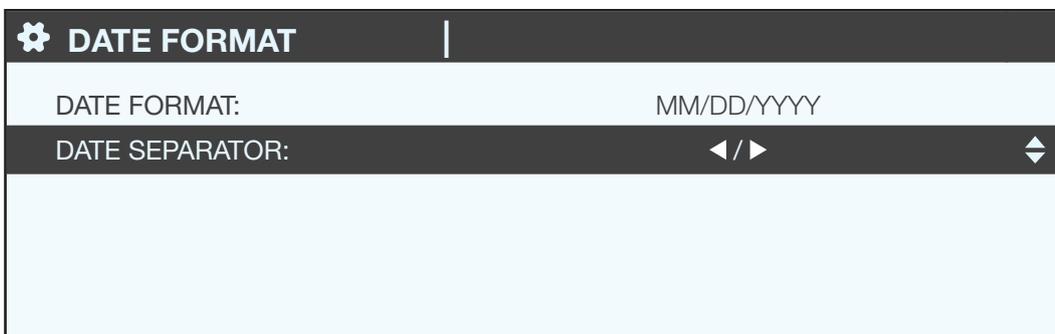
Choose from: English, French, German, Italian, Spanish, Flemish, Polish, Turkish and Chinese.

Select your language with the arrow pad and confirm with "OK".



7.1.4. Date format

You can select the display's date format, including the separator between the day, month and year:



7.1.5. RS485 communication

You can configure the display's address.

Configure the baudrate, stop bits, parity of the RS485 and Digiware bus.



Caution: these settings must be identical on the RS485 and Digiware buses, which are centralised on the DIRIS Digiware D-50 display.

DIRIS Digiware D-40 is a slave device on the RS485 bus and master on the Digiware bus (2 different buses in terms of baudrate, parity, stop bits).

DIRIS Digiware D-50 is a master device on the RS485 bus (same parameters in terms of baudrate, parity, stop bits).

PARAMETERS	
BAUDRATE:	◀ 38400 ▶
STOP:	1BIT
PARITY:	NONE
ADDRESS:	001

7.1.6. Ethernet communication

You can configure the Ethernet settings of the DIRIS Digiware D-50 display:

- DHCP (automatic address location via the Ethernet network) ON/OFF
- IP address
- Subnet mask
- LAN gateway

PARAMETERS	
DHCP:	◀ DISABLED ▶
IP ADDRESS:	192.168.000.003
MASK:	255.255.255.000
GATEWAY:	000.000.000.000

7.1.7. Setting the date/time on the remote device

You can configure the time on the DIRIS Digiware D display:

- Manually by entering the hour, minute, second, month, day, year
- Automatically (like a computer) by SNTP server (DIRIS Digiware D-50 only)

However you enter the time, the DIRIS Digiware D display transmits the date and time to all the counters and measuring units on the network, to synchronise all your devices.

CONF. DATE/TIME	
AUTO. REMOTE DATE/TIME SET	◀ MANUAL ▶
YEAR	00
MONTH	01
DAY	01
TIME	00
...	

To configure the SNTP you need advanced IT knowledge (see your IT Department) to enter the following fields:

- NTP server IP address
- NTP server port

CONF. DATE/TIME	
AUTO. REMOTE DATE/TIME SET	◀ SNTP ▶
SERVER IP ADDRESS:	000.000.000.000
SERVER PORT:	00123
TIME ZONE:	GMT +9:00
OK	

- Configuring counters and centralised measuring units

You can automatically detect and locate the addresses of the counters and measuring units connected to the DIRIS Digiware D display.

You can also automatically set the key parameters of the DIRIS Digiware and DIRIS B counters and measuring units with the DIRIS Digiware D display.

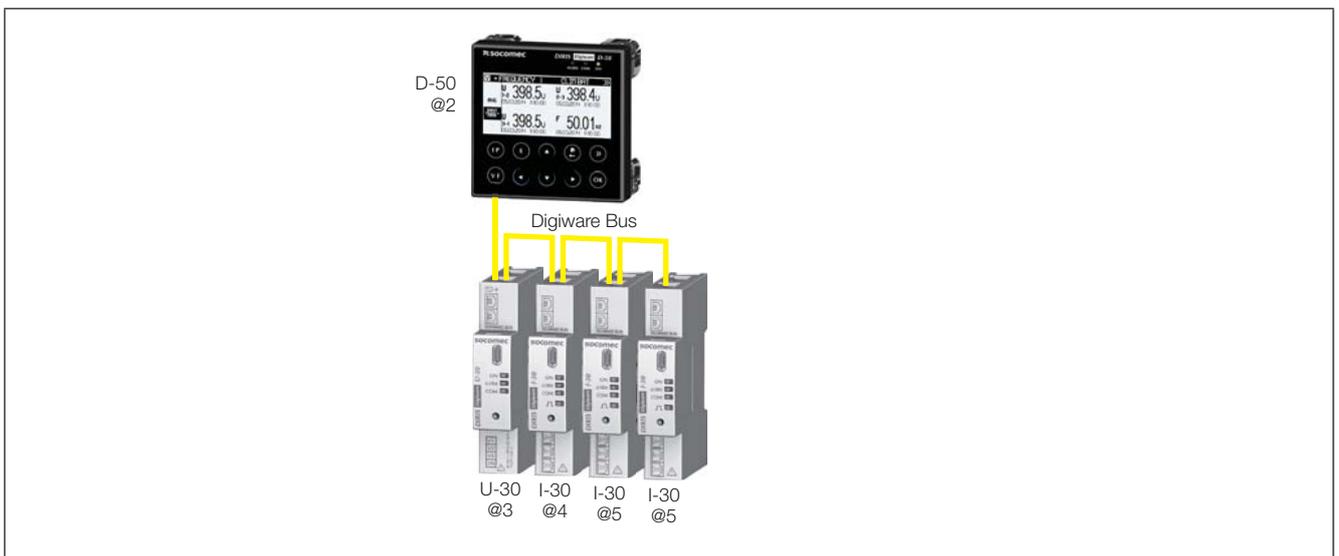
7.2. Locating and addressing

With auto-addressing mode you can have the system automatically assign addresses to devices connected to the DIRIS Digiware D. This mode is only compatible with DIRIS G-30 and DIRIS Digiware PMDs. The addresses will be allocated manually on the other PMD (DIRIS A) and meters (COUNTIS).

7.2.1. DIRIS Digiware D-50

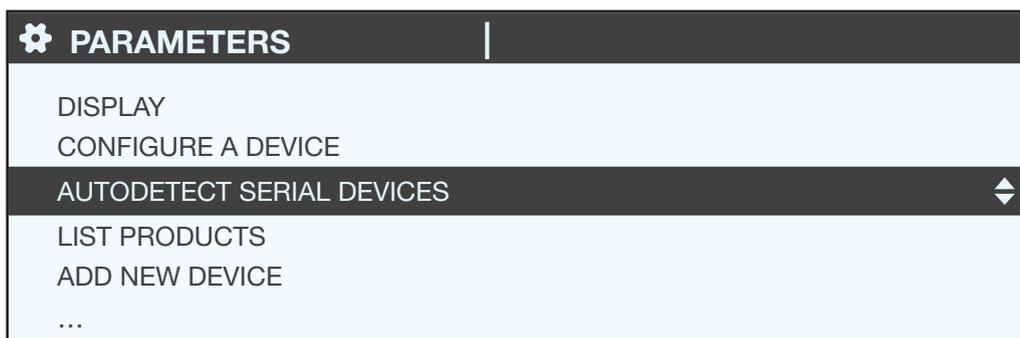
Example of auto-addressing on the D-50.

Four devices are connected to the D-50. Two are addressed correctly, the other two have an identical address.



To resolve address conflicts, go to PARAMETERS / AUTODETECT SERIAL DEVICES:

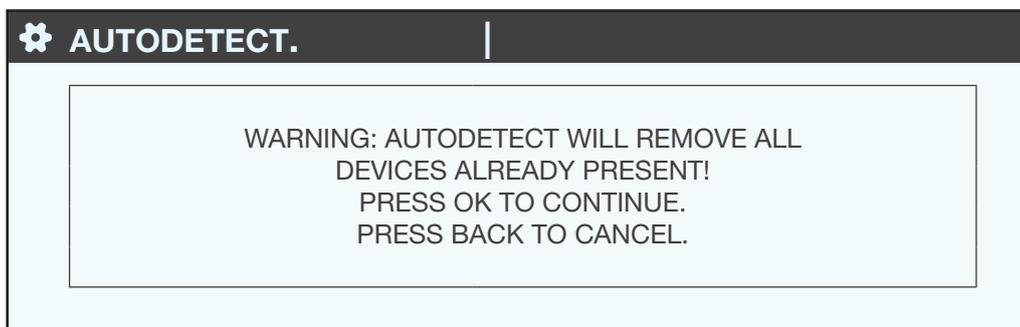
With this function you can detect all the devices connected with the Digiware bus and/or the RS485 bus to the DIRIS Digiware D display. This function does not apply to DIRIS D-30.



Select "START" then "OK" to start the scan/detection process (this can take up to 1 minute).



Caution: this removes all previously found devices (if they are still there they will be found again).



The different stages follow automatically:

- DETECTING ADDRESS



- ADDR SCANNING

AUTODETECT.	
STATUS:	ADDR SCANNING
FOUND DEVICES	002
ADDR CONFLICTS	001
STOP	

When the STATUS "STOPPED" appears, the system has ended its search.

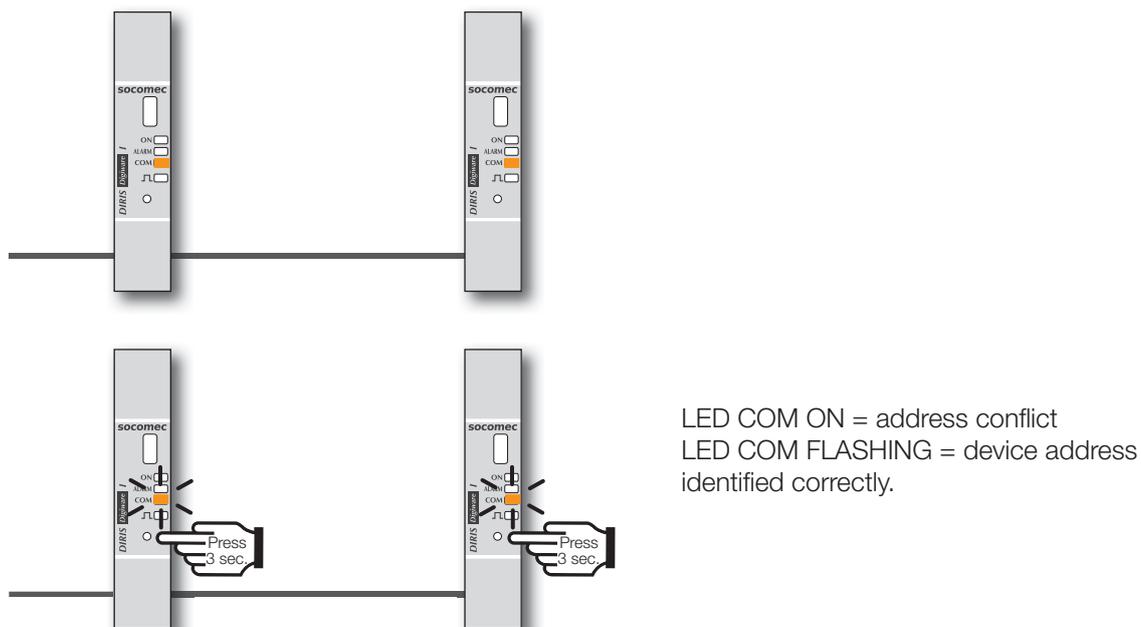
The number of found devices is the number of devices that have been correctly located (two in this example). If there is an address conflict (if 10 devices have the same address, this is taken as a single conflict, not 10 conflicts), this means multiple devices have the same address (two in this example). In this case, assign them individual and unique addresses.

AUTODETECT.	
<p>ADDRESS CONFLICTS HAVE BEEN DETECTED! PRESS THE AUTOADDRESS BUTTON ON ALL NON-BLINKING DEVICES TO SOLVE THE CON- FFLICTS.</p>	

Press "OK".

AUTODETECT.	
STATUS:	SET ADDRESSES
FOUND DEVICES	002
ADDR CONFLICTS	001
STOP	

To go to this address, locate the lit "COM" LED on the front of each device. Press and hold down this button for a few seconds until the LED flashes:



AUTODETECT.	
STATUS:	STOPPED
FOUND DEVICES	004
ADDR CONFLICTS	000
START	

The display now shows the number of detected devices increase and the number of conflicts decrease to reach zero once all devices have a unique address.



You can then check the list of found devices along with their addresses.

PARAMETERS	LOAD1
DISPLAY	
CONFIGURE A DEVICE	
AUTODETECT SERIAL DEVICES	
LIST PRODUCTS	◆
ADD NEW DEVICE	
...	

Example:

LIST PROD.	LOAD1
Diris U30 ID:546434	@003 ◆
Diris I30 ID:F0C1D2	@004
Diris I30 ID:F0C1D3	@005
Diris I30 ID:F0C1D4	@006

You can find the codes on the marking on the devices (546434 on U-30 and F0C1D2 on one of the I-30s) in the photo:



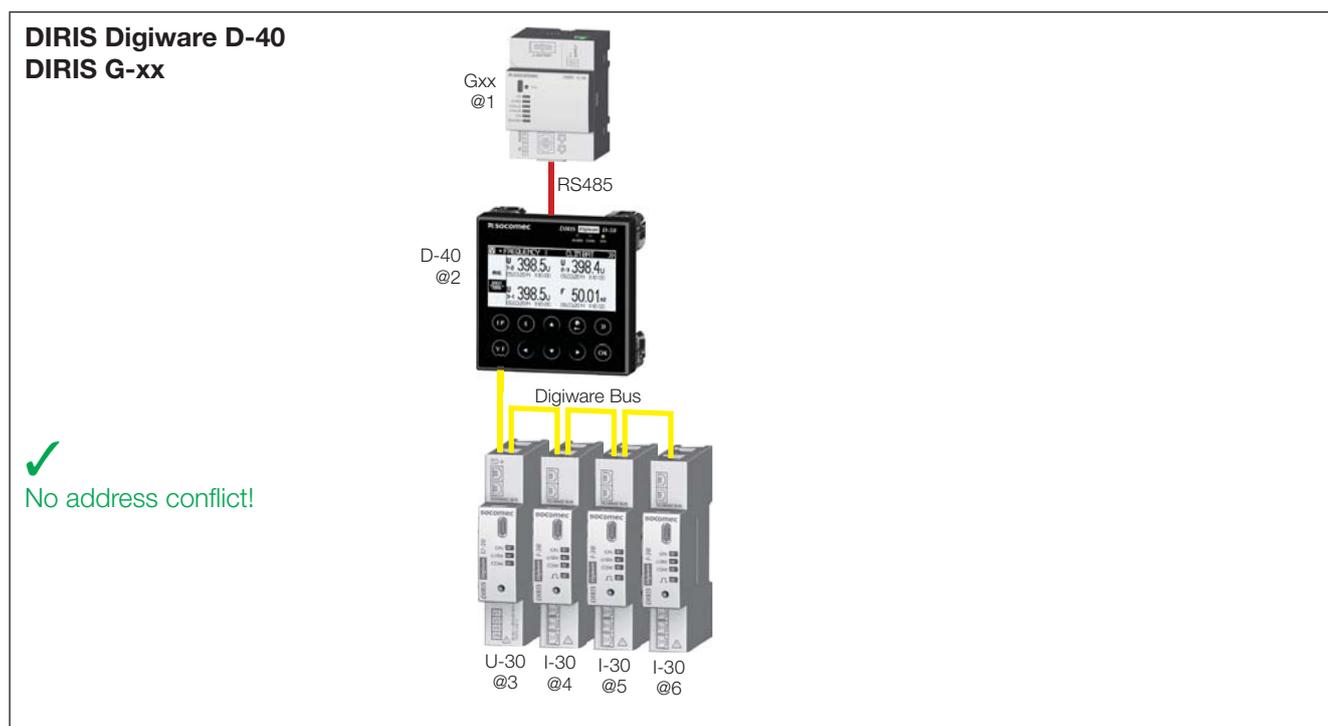
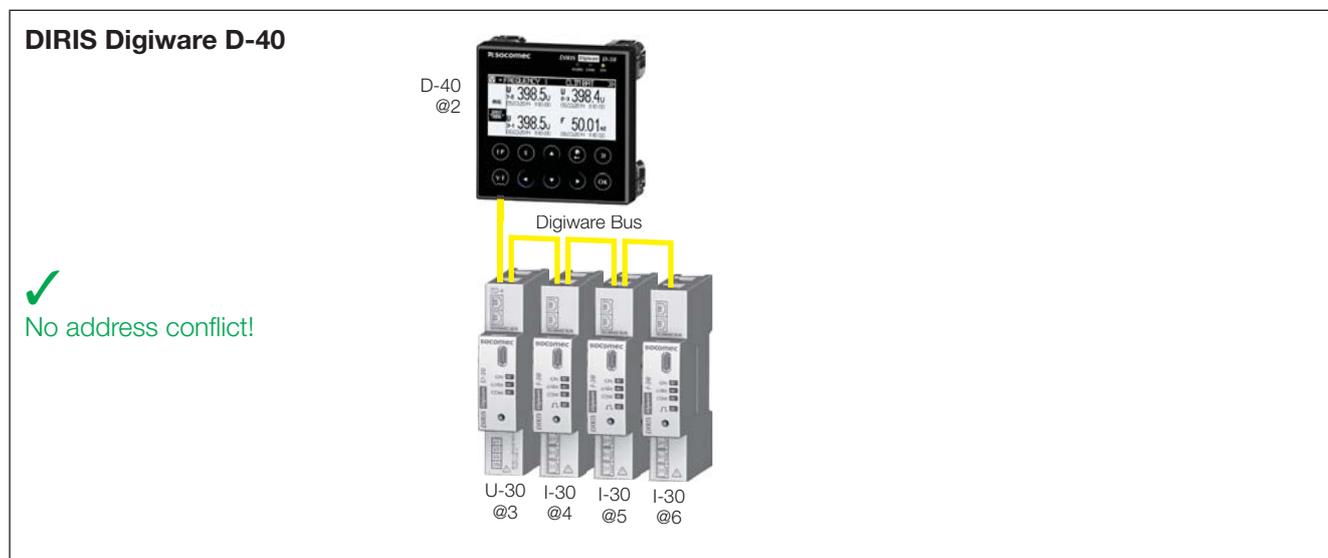
We can now configure the devices individually.

7.2.2. DIRIS Digiware D-40

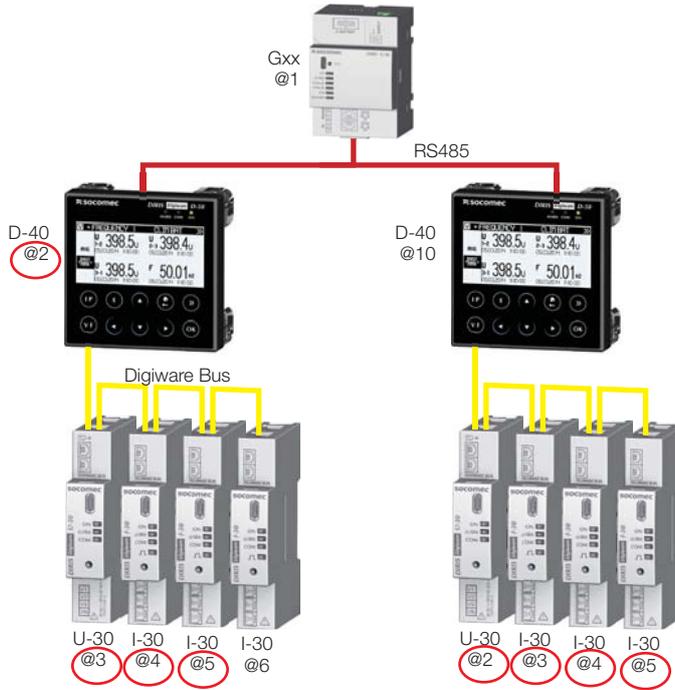
7.2.2.1. Addressing range

To avoid a conflict of addresses, first define a range of addresses that can be assigned to auto-detected when devices.

Below are some examples of communication architecture.



DIRIS Digiware D-40 x2
DIRIS G-xx



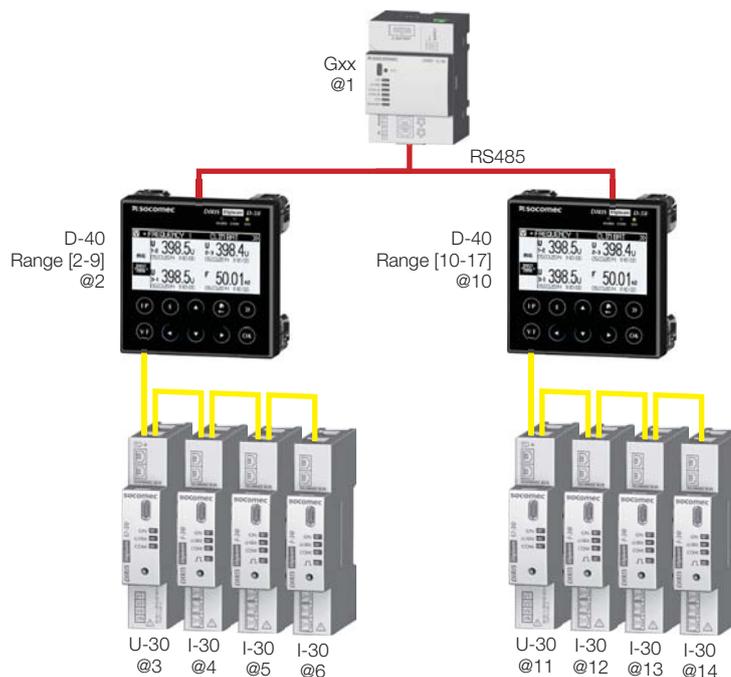
With this communication architecture, each DIRIS Digiware D-40 allocates addresses to the devices on its branch, but it ignores addresses of devices from a different branch where there is a potential risk of conflicting addresses! The RS485 communication parameters upstream of the D-40 devices are separate from the Digiware parameters downstream of the D-40 devices. This means that the communication baudrate is also separate, and may vary between the upstream RS485 bus and the downstream Digiware bus.

To avoid these conflicts:

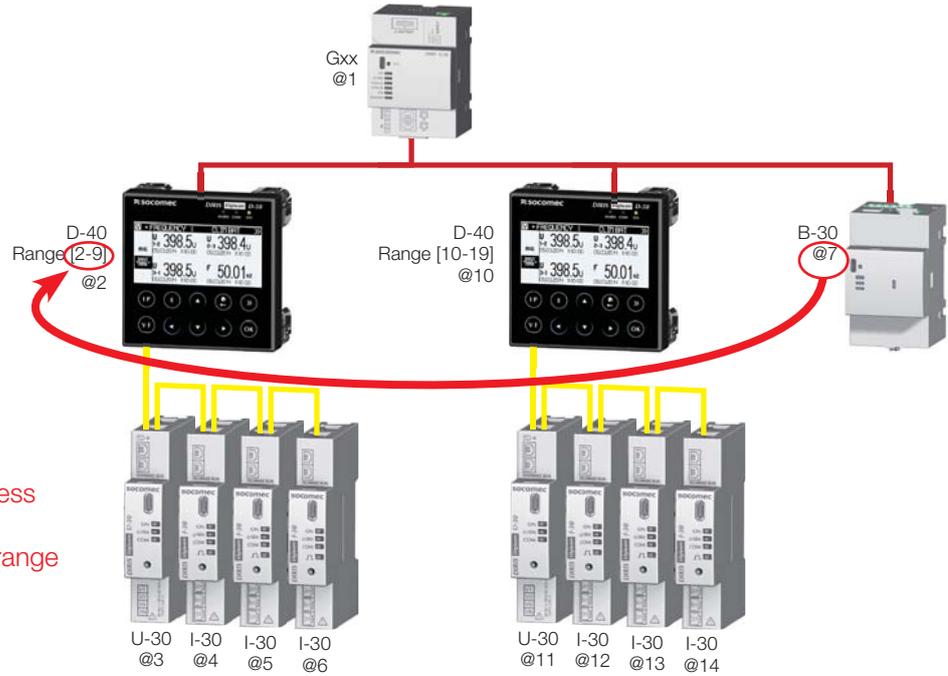
- The user must first define a different range of addresses for each Digiware D-40 DIRIS branch.
- The smallest address is assigned to the D-40.
- The following addresses are assigned to devices connected to the D-40.

Example address selection:

DIRIS Digiware D-40 x2
DIRIS G-xx



DIRIS Digiware D-40 x2
DIRIS G-xx
DIRIS B-30



Potential problem if the address of a new device is already included within the address range of an installed D-40.

The user must also take into account the addresses of other devices connected to the RS485 network.

7.2.2.2. Setting the addressing range



PARAM AFF |

LANGUAGE
DATE FORMAT

DIGIWARE ADDRESSING RANGE 

RS485 SLAVE COMMUNICATION
CONF. DATE ON REMOTE PRODUCT
...

DIGIWARE ADDR |

START ADDRESS 002 

END ADDRESS 035

D40 ADDRESS 002

NB ADDR. POSSIBLE 032

APPLY SETTINGS

DIGIWARE ADDR |

START ADDRESS 002

END ADDRESS 009 

D40 ADDRESS 002

NB ADDR. POSSIBLE 007

APPLY SETTINGS

DIGIWARE ADDR |

START ADDRESS 002

END ADDRESS 009

D40 ADDRESS 002

NB ADDR. POSSIBLE 007

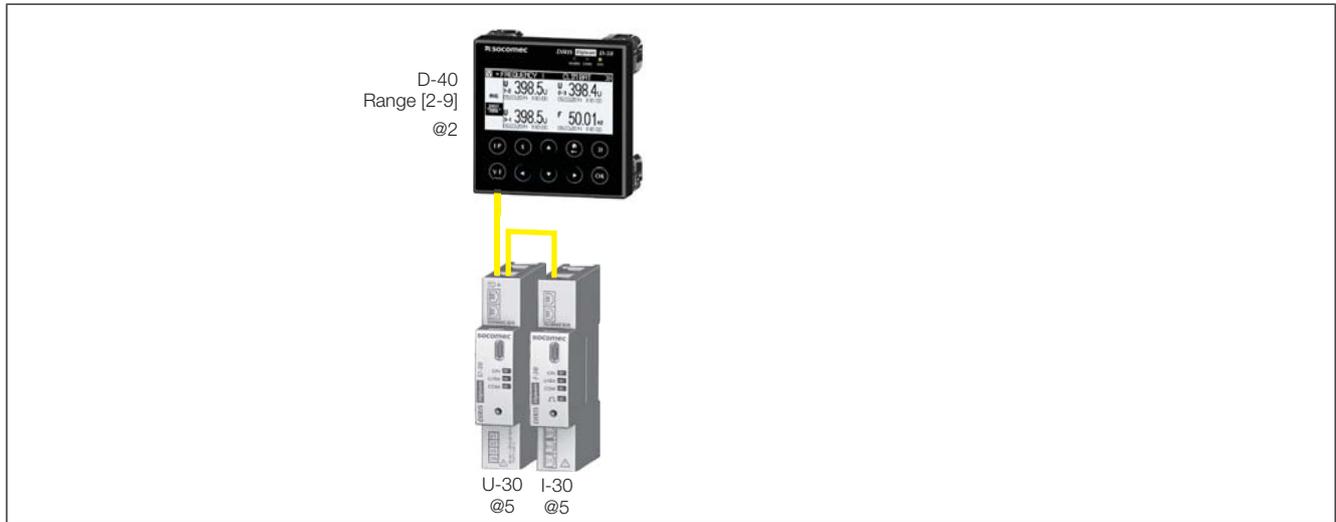
APPLY SETTINGS 

7.2.2.3. Auto-addressing

Once the address ranges are configured on the D-40, you can launch the auto-addressing process for connected devices.

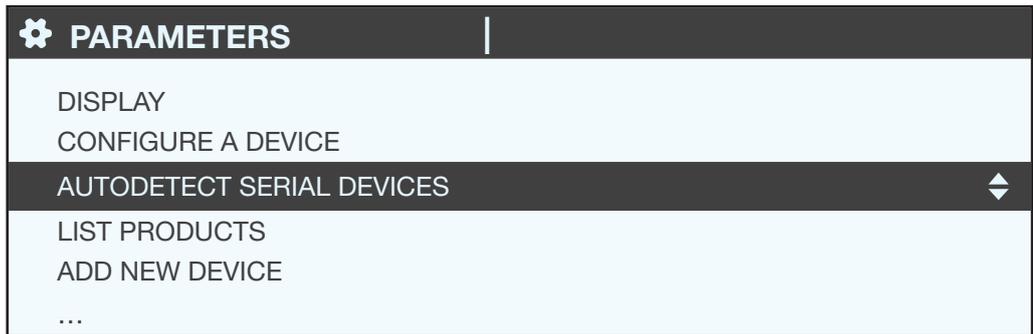
Example of auto-addressing on the D-40.

Two devices are connected to the D-40. They have an identical address.

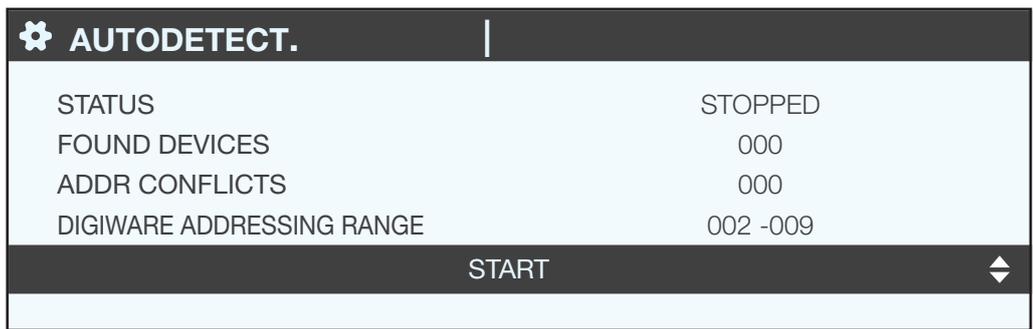


To resolve address conflicts, go to PARAMETERS / AUTODETECT SERIAL DEVICES:

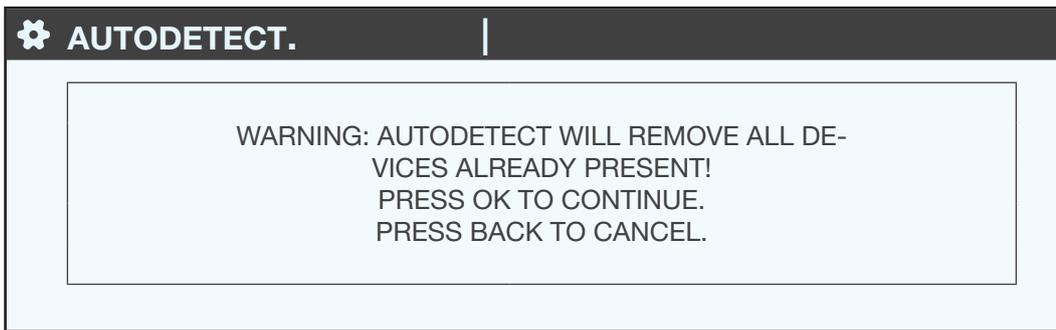
With this function you can detect all the devices connected with the DIGIWARE bus and/or the RS485 bus to the DIRIS Digiware D display.



Select "START" then "OK" to start the scan/detection process (this can take up to 1 minute).



Caution: this removes all previously found devices (if they are still there they will be found again).



Press "OK".

The different stages follow automatically:

- DETECTING ADDRESS



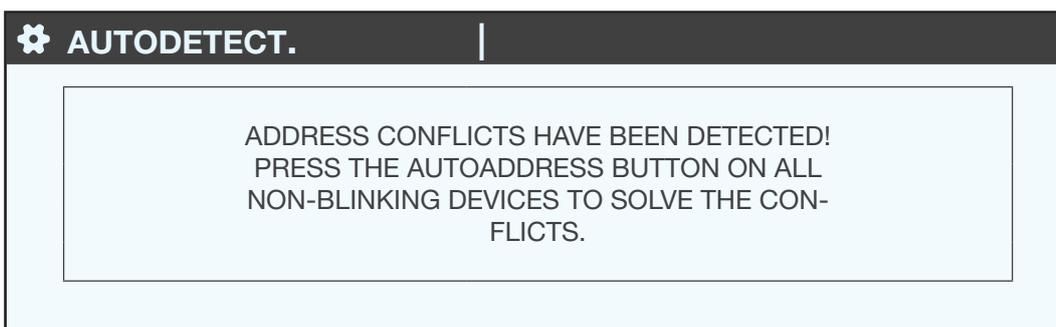
- ADDR SCANNING



When the STATUS "STOPPED" appears, the system has ended its search.

The number of found devices is the number of devices that have been correctly located.

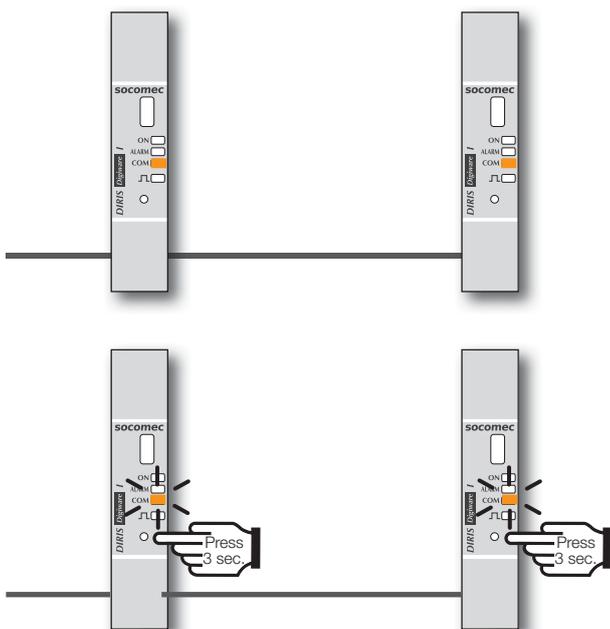
If there is an address conflict (if 10 devices have the same address, this is taken as a single conflict, not 10 conflicts), this means multiple devices have the same address (two in this example). In this case, assign them individual and unique addresses.



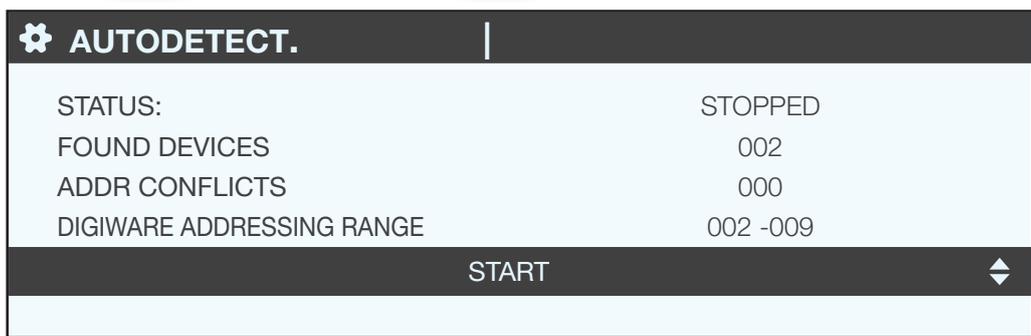
Press "OK". The following screen appears:



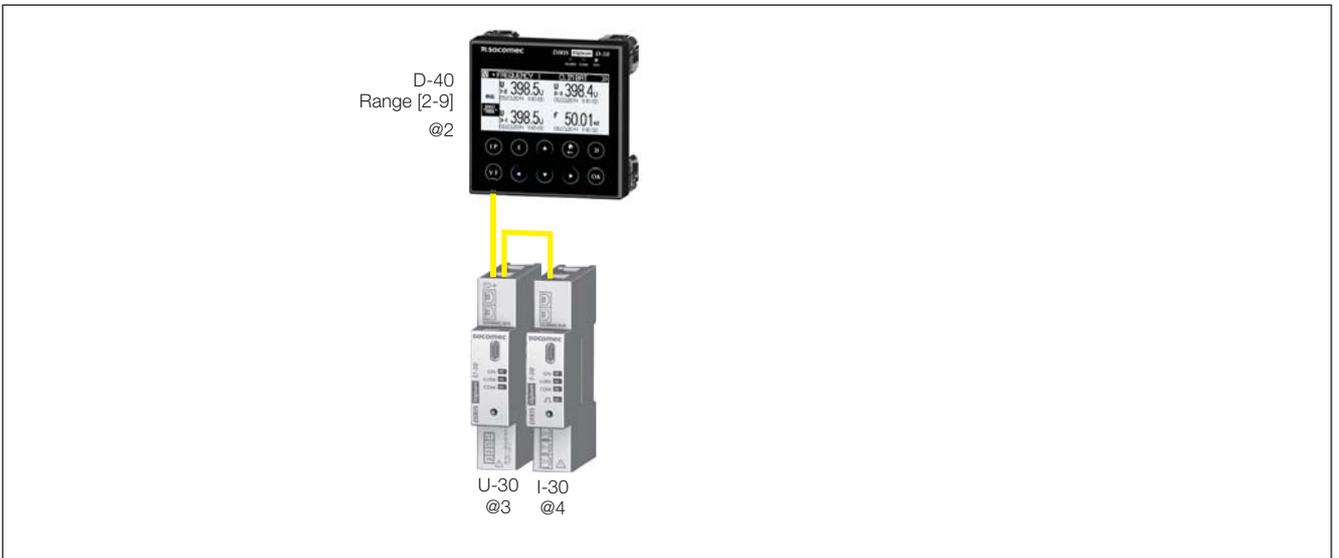
To go to this address, locate the lit "COM" LED on the front of each device. Press and hold down this button for a few seconds until the LED flashes:



LED COM ON = address conflict
 LED COM FLASHING = device address identified correctly.



The display now shows the number of detected devices increase and the number of conflicts decrease to reach zero once all devices have a unique address.



You can then check the list of found devices along with their addresses.

⚙️ PARAMETERS	LOAD1
DISPLAY CONFIGURE A DEVICE AUTODETECT SERIAL DEVICES	
LIST PRODUCTS ⚡	
ADD NEW DEVICE	
...	

Example:

⚙️ LIST PROD.	LOAD1
Diris U30 ID:545434	@003 ⚡
Diris I30 ID:F0C1D2	@004

7.3. Configuring each counter and measuring device

"Parameters" > "Configure a device".

PARAMETERS	LOAD1
DISPLAY	
CONFIGURE A DEVICE	
AUTODETECT SERIAL DEVICES	
LIST PRODUCTS	
ADD NEW DEVICE	
...	

There are two stages to electrically configuring the various devices:

- **Network:** setting the type of voltage network: single-phase (1P+N), two-phase (2P), three-phase without neutral (3P), three-phase with neutral (3P+N).
- **Load:** configuring all the loads/outputs used. You can, for example, have a three-phase network voltage, on which three-phase and single-phase loads are measured.

With DIRIS Digiware U-xx you can configure the network

LIST PROD.
Diris I30 ID:FOC1D2 @004
Diris U30 ID:546434 @006



SELECT PROD.	Diris U30 ID:546434
NETWORK	

With DIRIS Digiware I-XX you can configure the loads

⚙️ SELECT PROD..	
Diris I30 ID:FOC1D2	@004
Diris U30 ID:546434	@006



⚙️ SELECT PROD.		Diris I30 ID:FOC1D2
LOADS		

With DIRIS B-30 you can configure the network and loads at the same time.

7.3.1. Network configuration

You can configure the various network voltage parameters:

- Nominal voltage:
This is the phase-phase voltage (usually 400 V) for three-phase networks
This is the phase-neutral voltage (usually 230 V) for single-phase networks
- Network type: single-phase (1P+N), two-phase (2P), three-phase without neutral (3P), three-phase+neutral (3P+N)
- Nominal frequency: 50 or 60 Hz depending on the country

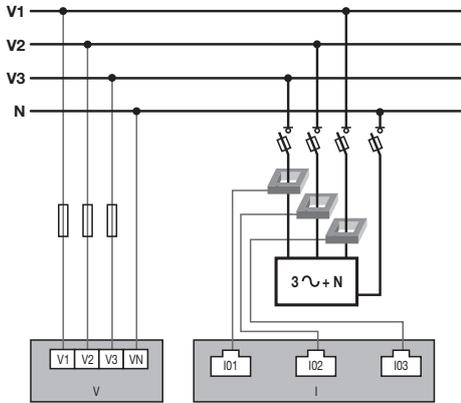
⚙️ PARAMETERS		Diris U30 ID:546434
NOMINAL VOLTAGE		00400
NETWORK TYPE		3P + N
NOMINAL FREQUENCY		50HZ
PRESS OK TO CONFIRM		

7.3.2. Configuring loads

You can simultaneously measure multiple single-phase, two-phase and three-phase loads on a DIRIS B-30 or DIRIS Digiware display.

7.3.2.1. Example of a load configuration

This example shows a DIRIS Digiware I-30 measuring a three-phase + neutral load using 3 current transducers.



⚙️ OUTPUT		Diris I30 ID:FOC1D2		
LINES		I1	I2	I3
TC		250 A	250 A	250 A
DIRECTION		+/DIRECT	+/DIRECT	+/DIRECT
LINE V		V3	V2	V1
OUTPUT		L1	L1	L1
TYPE		3P+N_3CT	3P+N_3CT	3P+N_3CT
PRESS OK TO ENTER SETTINGS				



The transducer connected to the current 1 input measures the current of phase 3 (V3)

The transducer connected to the current 2 input measures the current of phase 2 (V2)

The transducer connected to the current 3 input measures the current of phase 1 (V1)

⚙️ OUTPUT		Diris I30 ID:FOC1D2		
LINES		I1	I2	I3
TC		250 A	250 A	250 A
DIRECTION		+/DIRECT	+/DIRECT	+/DIRECT
LINE V		V3	V2	V1
OUTPUT		L1	L1	L1
TYPE		3P+N_3CT	3P+N_3CT	3P+N_3CT
PRESS OK TO ENTER SETTINGS				

The 3 current inputs I1, I2, I3 are assigned to the same output / three-phase load no. 1 (L1).

⚙️ OUTPUT		Diris I30 ID:FOC1D2		
LINES		I1	I2	I3
TC		250 A	250 A	250 A
DIRECTION		+/DIRECT	+/DIRECT	+/DIRECT
LINE V		V3	V2	V1
OUTPUT		L1	L1	L1
TYPE		3P+N_3CT	3P+N_3CT	3P+N_3CT
PRESS OK TO ENTER SETTINGS				

The TC field indicates the type of earth fault connected and the direction shows if it was mounted upright or inverted (upright gives a good overview of the positive powers rather than the negative powers shown when inverted: see +100 kW instead of -100 kW, for example):

⚙️ OUTPUT		Diris I30 ID:FOC1D2		
LINES		I1	I2	I3
TC		250 A	250 A	250 A
DIRECTION		+/DIRECT	+/DIRECT	+/DIRECT
LINE V		V3	V2	V1
OUTPUT		L1	L1	L1
TYPE		3P+N_3CT	3P+N_3CT	3P+N_3CT
PRESS OK TO ENTER SETTINGS				

7.3.2.2. Changing the load settings

Following the example above, to change the settings, press "OK".

⚙️ OUTPUT		Diris I30 ID:FOC1D2		
LINES		I1	I2	I3
TC		250 A	250 A	250 A
DIRECTION		+/DIRECT	+/DIRECT	+/DIRECT
LINE V		V3	V2	V1
OUTPUT		L1	L1	L1
TYPE		3P+N_3CT	3P+N_3CT	3P+N_3CT
PRESS OK TO ENTER SETTINGS				

You can change each parameter to configure each of the loads (the values shown onscreen are shown in bold - see the example below).

- OUTPUT -> configure load 1: **L1** - load 2: L2 - load 3: L3
- NAME -> name of the load: **LOAD 1** (edit with max. 16 characters)
- TYPE -> type of load: single-phase (1P+N), two-phase (2P), three-phase (3P), **three-phase+neutral (3P+N)**
- I RATED -> set the rated current of the load: **20A** (caution: the rated current of the load may differ from the transducer (CT1) used: you can have a 63A transducer monitoring a 20A circuit breaker output.
- CT1 -> current measured by the transducer: **I1**, I2, I3.

PARAMETERS		Diris I30 ID:FOC1D2
OUTPUT		◀ L1 ▶
NAME		LOAD 1
TYPE		3P+N_3CT
I NOMINAL		00020
CT1		I1
...		

Go back to "CONFIG CT" to make detailed settings for the current transducer:

PARAMETERS		Diris I30 ID:FOC1D2
...		
NAME		LOAD 1
TYPE		3P+N_3CT
I NOMINAL		00020
CT1		I1
		CONFIG. CT
...		

Configure:

- DIRECTION -> Direction of the transducer (**+/DIRECT**, **-/REVERSE**)
- LINE V -> V1, V2, **V3** (is the transducer positioned on phase 1, phase 2, phase 3?).
- TC -> change report. If a transducer is connected to the device, press "DETECT" to configure it automatically

Complete the process by selecting "OK" then "OK" again

CONFIG LINES		Diris I30 ID:FOC1D2
DIRECTION		+/DIRECT
LINE V		V3
TC		0600
		DETECT
		OK

If a load is configured as three-phase or three-phase+neutral, for example, you would have to configure multiple current transducers (e.g. 3 transducers for one three-phase load):

CONFIG LINES		Diris I30 ID:FOC1D2	
...			
	CONFIG. CT		
CT2		I2	
	CONFIG. CT		
CT3		I3	
	CONFIG. CT		⬆
...			

When you have finished configuring the entire load (L1) (type of load, name, rated current, all configured transducers), set the following loads (L2, L3) from the "OUTPUT" line:

PARAMETERS		Diris I30 ID:FOC1D2	
OUTPUT		◀ L1 ▶	⬆
NAME		LOAD 1	
TYPE		3P+N_3CT	
I NOMINAL		00020	
CT1		I1	
...			

For example, a DIRIS Digiware I-30 with 3 current inputs is best for measuring:

- 1 three-phase load (1 three-phase load L1 using the current inputs I1, I2, I3)
- 3 single-phase loads (1 L1 single-phase load with a transducer connected to the I1 current input, 1 L2 single-phase load with a transducer connected to the I2 current input, 1 L3 single-phase load with a transducer connected to the I3 current input).

There are a number of other possible load combinations.

When all the outputs/loads are configured (maximum 3 on one DIRIS Digiware I-30), apply your settings by selecting "SEND SETTINGS" and click "OK".

CONFIG LINES		Diris I30 ID:FOC1D2	
...			
CT3		I3	
	CONFIG. CT		
CT4		I1	
	CONFIG. CT		
	SEND SETTINGS		⬆

8. USE

Once the loads are configured, you can view the measures of each load on the "MEASURES" menu. You can view active and past alerts on the "EVENTS" menu. If an alert is active, the "ALARM" LED is on.



9. CHARACTERISTICS

9.1. DIRIS D-30 and DIRIS Digiware D-40/D-50 - characteristics

9.1.1. Mechanical characteristics

Type of screen	Capacitive touch-screen technology, 10 keys
Screen resolution	350 x 160 pixels
Front panel protection index	IP65
Weight of the DIRIS D-30 / DIRIS Digiware D-40/D-50	160g / 180g

9.1.2. DIRIS D-30 communication characteristics

Type of screen	Local single-point screen for DIRIS Digiware I-4x
RJ9	Self-powered and data
USB	Upgrade and configuration via type B micro USB connector

9.1.3. DIRIS Digiware D-40 communication characteristics

Type of screen	Multipoint remote screen
RJ45 Digiware	Control and power supply interface function
RS485 2-3 wires	Modbus RTU slave communication function
USB	Upgrade and configuration via type B micro USB connector

9.1.4. DIRIS Digiware D-50 communication characteristics

Type of screen	Multipoint remote screen
Ethernet RJ45 10/100 Mbs	Modbus TCP gateway function (max.4 simultaneous connections)
RJ45 Digiware	Control and power supply interface function
RS485 2-3 wires	Modbus RTU master communication function
USB	Upgrade and configuration via type B micro USB connector

9.1.5. Electrical characteristics

Power supply	24 VDC +10% / -20%
Power consumption	2 VA

9.1.6. Environmental characteristics

Storage temperature range	-20 to +70°C
Operating temperature range	-10 to +55°C
Humidity	95% at 40°C
Installation category - degree of pollution	CAT III, 2

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