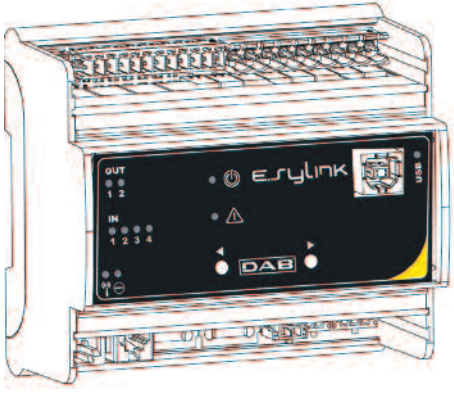
E.sylink

INSTALLATION INSTRUCTIONS



DAB
WATER•TECHNOLOGY

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KEY

The following symbols have been used in the discussion:

Situation of general danger. Failure to respect the instructions that follow may cause harm to persons and property.

WARNINGS

Read this documentation carefully before installation. Installation and operation must comply with the local safety regulations in force in the country in which the product is installed. Everything must be done in a workmanlike manner. Failure to respect the safety regulations not only causes risk to personal safety and damage to the equipment, but invalidates every right to assistance under guarantee.

Skilled personnel
It is advisable that installation be carried out by competent, skilled personnel in possession of the technical qualifications required by the specific legislation in force.
The term skilled personnel means persons whose training, experience and instruction, as well as their knowledge of the respective standards and requirements for accident prevention and working conditions, have been approved by the person in charge of plant safety, authorizing them to perform all the necessary activities, during which they are able to recognize and avoid all dangers. (Definition for technical personnel IEC 364).

The appliance is not intended to be used by persons (including children) with reduced physical, sensory or mental capacities, or who lack experience or knowledge, unless, through the mediation of a person responsible for their safety, they have had the benefit of supervision or of instructions on the use of the appliance. Children must be supervised to ensure that they do not play with the appliance.

Safety
Use is allowed only if the electric system is in possession of safety precautions in accordance with the regulations in force in the country where the product is installed (for Italy CEI 64/2).

Failure to observe the warnings may create situations of risk for persons or property and will void the product guarantee.

1- GENERAL

e.sylink is the DAB accessory with wireless interface 802.15.4, designed to allow the e.sybox to use digital inputs (pressure switch, float, etc.), to control 2 relay outputs (alarms, etc.) and to offer the possibility of connecting an auxiliary pressure sensor, so that it can be used as reference for the pressure set point.

1.1 Technical Data

Supply voltage	24 V ± 20%
Current [mA]	MIN : 55 @ 24V MAX: 150 @ 24 V
Dimensions [mm]	105 x 94 x60 (6 DIN modules)
Weight (g)	200
Protection class	IP 20
Working temperature [°C]	0 - 50

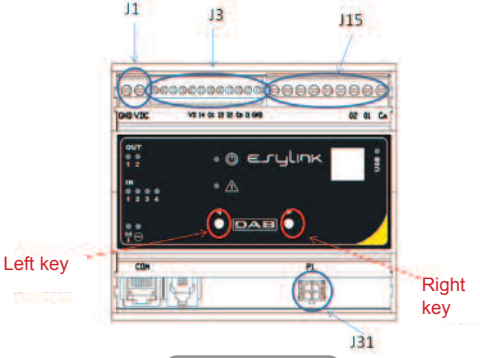

Figure 1: e.sylink

The e.sylink has 4 optoinsulated digital inputs (connector J3), 2 NO (normally open) relay outputs (connector J15) and has an output for 1 remote pressure sensor (J31). There are 10 leds for the user interface and 2 keys.

Digital inputs

The digital inputs are optoinsulated, they can be energised either with continuous negative and positive voltages or with alternating current at 50-60 Hz. Table 1 describes the characteristics and the limits of the digital inputs:

Characteristics of the inputs		
	DC inputs [V]	AC inputs 50-60 Hz [Vrms]
Minimum switch-on voltage [V]	8	6
Maximum switch-off voltage [V]	2	1.5
Maximum admissible voltage [V]	36	36
Current absorbed at 12V [mA]	3.3	3.3
Max. accepted cable section [mm²]	1.5	

Table 1: Input characteristics

The optoinsulated terminals are connected by applying a voltage to the terminals or by connecting the common signal to GND as a jumper and connecting the signal I to a contact (e.g. float, pressure switch, etc.)

Input wiring			
	Input connected to clean contact		Voltage input
Input	Clean contact between pins	Jumper	Connection
I1	I1-VS	CB - GND	I1 - CB
I2	I2-VS	CB - GND	I2 - CB
I3	I3-VS	CC - GND	I3 - CC
I4	I4-VS	CC - GND	I4 - CC

Table 2: Input wiring

An input mode is described in Figure 1, just as an example (Connection to Input 1)

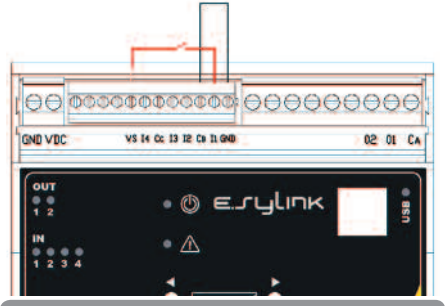

Figure 2: Example of wiring of input I1, input with clean contact

Output contacts:
The connections of the outputs listed below refer to the 9-pole terminal board (J15), indicated with screen printing O1, O2 and CA.
Table 3 describes the characteristics and limits of the output contacts.

Characteristics of the output contacts	
Type of contact	NO (Normally open)
Max. bearable voltage [V]	24
Max. bearable current [A]	5 -> resistive load 2,5 -> inductive load
Max. accepted cable section [mm²]	2,5

Table 3: Characteristics of the output contacts

An example of connection on the output contacts is shown below in Figure 2.

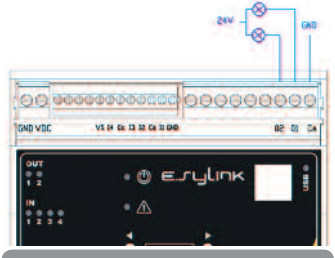

Figure 3: Example of output connection

For examples of practical applications that can be implemented on the e.sylink, refer to the e.sybox installation manual.

Pressure sensor:

e.sylink allows the use of 1 remote pressure sensor, directly on the 4-pole connector J31.
For further information refer to the e.sybox installation manual.

2- INSTALLATION

e.sylink must be installed in closed environments, it is not suitable for open-air installations or where there is a high level of humidity.
Before connecting e.sylink to the supply voltage, make all the necessary wiring, connecting the INPUTS and OUTPUTS in the desired configuration, optionally connect the pressure sensor and set the desired input and output configurations on the e.sybox (refer to the e.sybox installation manual).
At this point power the e.syLink with the supply voltage, as described in Figure 3. Figure 3 shows, just as an example, a supply wiring, using a 24 VDC feeder for assembly on a DIN bar.

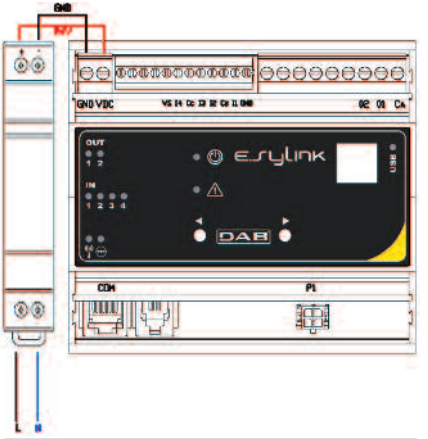

Figure 4: Example of e.sylink power supply connection

At start all the leds are lit for 2 seconds, in order to check their correct operation.
In the event of malfunction the FAULT leds will light up, as described in Table 5.
Now make the connection with one e.sybox or more, as described in chapter 3.
ATTENTION: In order to connect e.syLink to e.syBox check that the FW version of e.sybox is 4.xx or higher. To check the FW version, refer to the e.sybox installation manual. In the case of a previous version update the e.sybox to version 4.xx or higher as described in chapter 4,

otherwise contact a DAB assistance centre (www.dabpumps.com).

3- USER INTERFACE

Figure 5: e.sylink Interface

On the e.sylink there are leds indicating the system operating status. Table 4 describes the meaning of each leds on the user interface:

Characteristics of the leds		
LEDS	COLOUR	Description
POWER	White	On: e.sylink powered Off: e.sylink not powered
FAULT	Red	Off: no fault On or blinking: see Table 5
IN	Green	Off: Input not energised On: Input energised
OUT	Yellow	Off: relay contact open On: relay contact closed
	Blue	Off: e.sylink not connected and wireless configuration not present On: e.sylink connected Blinking: e.sylink not connected, but with wireless configuration present
	Green	Pressure Sensor connected

Table 4: leds characteristics

Table 5 described the possible faults that may be found by e.sylink

Fault	LED FAULT
General	On with fixed light
Supply voltage not sufficient for correct relay control	3 blinks every 4 seconds
Supply voltage not sufficient to power the pressure sensor	2 blinks every 4 seconds
Wireless protocol version not compatible.	1 blink every 4 seconds

Table 5: Faults

Association procedure

The basic function of the e.sylink is that it can be connected by means of a wireless interface 802.15.4, equipped with a protocol owned by DAB, to one or more e.sybox units.
It is possible to connect the e.sylink to an e.sybox or to several e.sybox units using the following procedure:

- Supply power to the e.sylink
- Go to page AS (see e.sybox manual) on the e.sybox, press the '+' key for at least 5 seconds, wait for the blue leds (on the e.sybox display) to blink every 2 seconds.
- Press the right key on the e.sylink for at least 5 seconds, then wait until the system 1 blue leds  (see table 4) is lit with a fixed light.

To interrupt the procedure it is possible to press the left key on the e.sylink.
In the event of a momentary disconnection from e.sybox, the blue led  blinks to indicate that the device is not connected, but is trying to restore the connection.
The wireless network configuration is maintained even in the case of a temporary power cut or if the device is switched off.

Disconnection procedure and resetting of the wireless configuration.
Hold down **the left key for 5 seconds.** If the operation has been successful the System 1 blue leds  will be off.

4 - HOW TO UPDATE E.SYLINK AND E.SYBOX

e.sylink has the possibility of updating its firmware through a USB connection and of updating e.sybox firmware by means of a wireless connection.
When the e.sylink is connected to the PC using the USB cable provided, a .bin file can be seen in it which contains the e.sylink firmware and the firmware for updating the e.sybox. The file will be of the type **EsyBox_ Vxxx.yy_EsyLink_Vkkk.zz.bin**, where xxx.yy represents the fw version of e.sybox, while kkk.zz represents the fw version of e.sylink

Procedure for updating the .bin file on e.sylink:
To change the e.sylink firmware or update e.sybox with a recent version you must have the .bin file with the most recent version of e.sylink and e.sybox issued by DAB (www.dabpumps.com), a PC with Windows 7, Vista or XP operative system and the USB cable with B type connector supplied with e.sylink. If you want to replace the file with a new version, follow the procedure described below: (the USB will power the e.sylink during the update)

1 - Connect the USD cable supplied
2 - Switch on the e.sylink, holding down any key.
3 - The e.sylink disk unit will appear on the PC 3
4 - Delete the file present
5 - Copy the new .bin file

It is now possible to update e.sybox with e.sylink, using the wireless interface 802.15.4. To do this the two devices do not need to be associated with each other. Updating takes about 1 minute.

Procedure for updating e.sybox with e.sylink:

On the e.sylink control unit	1	Switch off the e.sybox pump you want to update.
	2	Position the e.sylink control unit in the immediate vicinity of the e.sybox pump
	3	Disconnect the e.sylink control unit from the power supply
	4	Holding down the 2 keys ◀ ▶ simultaneously, supply power to the e.sylink control unit.
	5	Release the keys and check that the green LED is lit.
	The e.sylink is now ready and will remain in standby for about one minute.	

On the e.sybox pump	6	Holding down the keys [MODE] and [-], supply power to the e.sybox
	7	Release the keys.
		At this point the e.sybox display will show the message “LV LOADER v y.x” and an empty progress bar; after a few moments the bar will start to fill, showing that the updating phase has started which will take about one minute. At the end of this phase the e.sybox will reset automatically, starting the new program. Now it is necessary to check that the firmware is correctly installed. • Once the pump has been restarted, the display shows the home page. Press the [MODE] key 6 times until page VE is shown. • If the expected version is shown on page VE under the heading “SW V.”, the operation has been successfully completed.
	Repeat this procedure to update other e.sybox units.	

If the update has not been successful, the red Fault led will light up on the e.sylink.

Table 1 describes the number of blinks of the e.sylink FAULT led in the case of errors and the actions to be taken.

Error code	Cause	Action to be taken
6 blinks	Errore durante l’aggiornamento	Ripetere la procedura
5 blinks	The firmware installed on the e.sybox is more recent than that in the e.sylink.	The system is working correctly. Check it a more recent Firmware version is available.
4 blinks	e.sybox firmware not present or corrupted	Load the correct .bin file

Table 6: Errors indicated by the fault leds