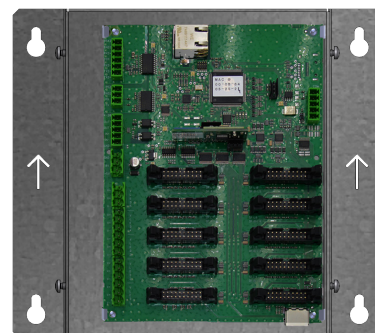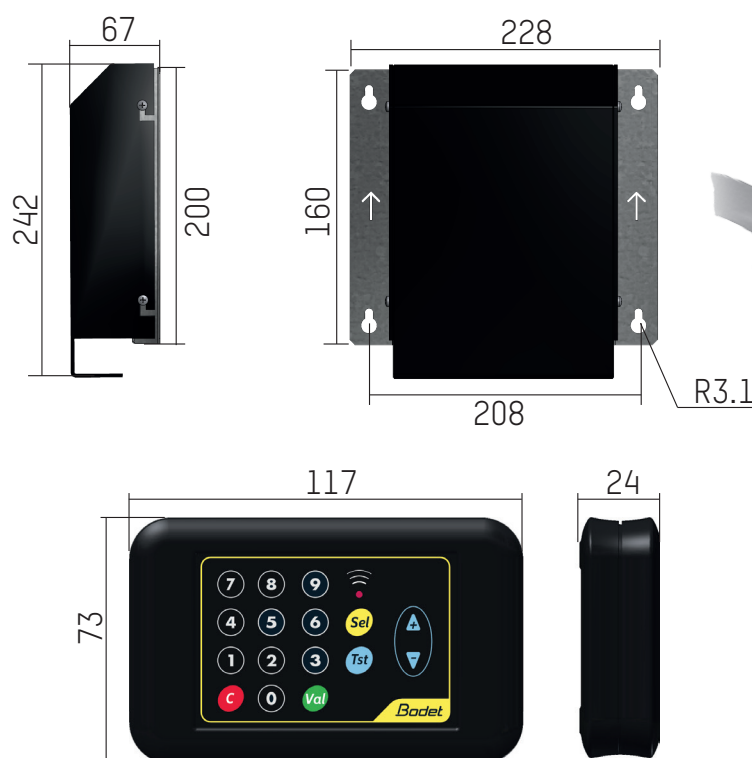# Karbu Link

GENERAL PRESENTATION

• The Karbu Link control kit makes it possible to manage the fuel price display on petrol price totems equipped with Karbu Link LED lines (refer to the corresponding product data sheet for more information on Karbu Link LED lines.)

• The Karbu Link can manage 1 to 10 Karbu Link LED lines*:
> Single-sided: maximum display of 10 prices.
> Double-sided: maximum display of 5 prices per side.
*The Karbu Link with its extension kit can manage up to 20 prices.

• The Karbu Link is universal and can manage all colours, all formats, all protocols (integrated protocol interfaces) and all line sizes.

• The Karbu Link is only compatible with Karbu Link LED lines.

MECHANICAL CHARACTERISTICS
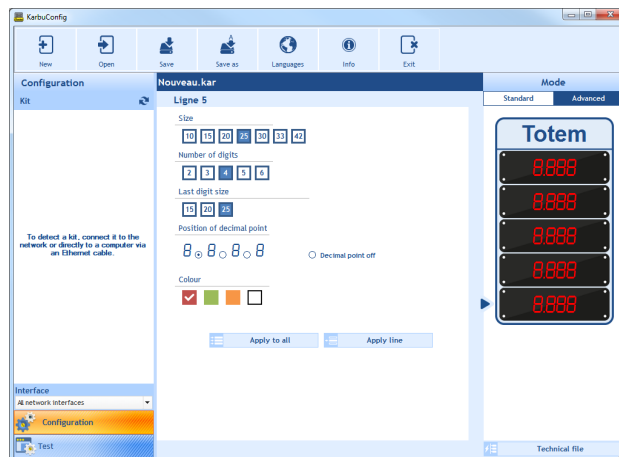

Karbu Link without the protection cover.

	Karbu Link	KarbuPad remote control
Weight (kg)	0.600	0.145
Protection class	IP23*	IP40
Operating T°	−20° to +70°C	
Power supply	100-240V AC**	2 1.5V LR6 batteries
Consumption	0.35A to 230V AC (not including consumption of LED lines)	−

* Electronic board protected from condensation and humidity by varnish.

** Dedicated 5V DC 3A waterproof power supply (IP67) for the CPU board of the Karbu Link.

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CONFIGURATION

- The Karbu Link is configured using the **Karbu Config software** (see opposite).

- The PC (Karbu Config software) and the petrol price sign (Karbu Link communicate via an Ethernet RJ45 connection.

- The software can be operated without any particular configuration or installation on the PC.

- The simple and intuitive interface of the software makes it possible to configure the entire petrol price sign and generate a technical file containing all the necessary information (configuration summary, snapshot of the configured petrol price sign and wiring diagram).

PRICE ADJUSTMENT

- Prices can be adjusted in three different ways:

  > **Protocol interfaces**: the Karbu Link incorporates management of the following cash register-price sign protocols: Logitron, Scheidt & Bachmann, Tokheim, Lafon, Jupiter and Wayne Dresser over various links (RS232, RS422/485, 4-20mA current loop). Contact us for other cash register-price sign protocols.

  > **KarbuPad remote control**: for managing the display of the fuel lines by sending commands via 868 MHz HF radio to the Karbu Link. Open field range: 25 meters.

  > **KarbuPrice software**: for managing the display of fuel lines on one or more petrol price signs using the Ethernet RJ45 network.

  > **Inter-price signs links**: possibility of linking up 2 Karbu Link price signs in order to simultaneously display fuel prices.

POWER SUPPLY MANAGEMENT

- As the Karbu Link is universal, the number of waterproof power supply modules (15V DC 9.5A, IP67) for the Karbu Link LED lines are to be determined before ordering time (separate reference code).

- Use the following table to determine the number of power supply modules required according to the LED line type:

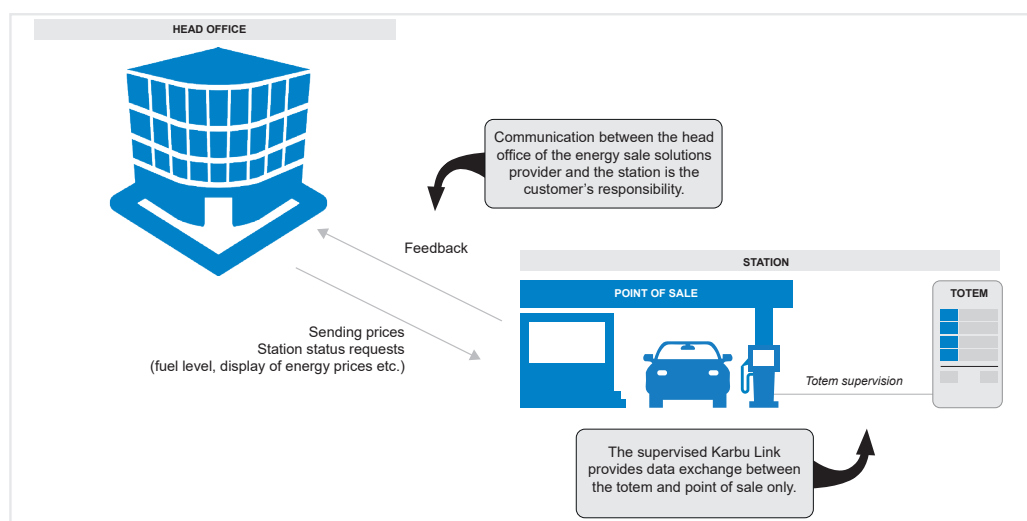| LED colour	Sizes (cm)	Number of Karbu Link LED lines*									
		1	2	3	4	5	6	7	8	9	10
Red, yellow or green	10	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1
	20	1	1	1	1	1	1	1	1	2	2
	25	1	1	1	1	1	1	2	2	2	2
	30	1	1	1	1	2	2	2	2	3	3
	42	1	1	2	2	3	3	4	4	5	5
White	10	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	2	2	2	2
	20	1	1	1	1	2	2	2	2	3	3
	25	1	1	2	2	3	3	4	4	5	5
	30	1	1	2	2	3	3	4	4	5	5
	42	1	1	2	2	3	3	4	4	5	5

Examples:
1 power supply module is required for a petrol price sign with 3 double-sided LED lines – 25 cm red (i.e. 6 lines in total).
4 power supply modules are required for a petrol price sign with 4 double-sided LED lines – 25 cm white (i.e. 8 lines in total).

Ability to manage up to 20 LED lines (information on the number of power supply modules in the technical files from the KarbuConfig software).

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SUPERVISED KARBU LINK

• The supervised Karbu Link control kit can be used to respond to requests from a point of sale by sending it data related to operation of the totem.

• The supervised Karbu Link can be used to:
- detect the communication status between the totem and the point of sale: increased brightness of each line of the totem for a few seconds.
- to identify the side, then the line, then the digit, then the segment of LEDs where the fault is observed on the totem.
- to detect faults to the nearest LED (by pack of 4 LEDs).
- to automatically switch off a line if more than 50% of the LEDs in a segment are faulty.

Compatibility and requirements

Supervised Karbulink is compatible with Tokheim KA (10 price lines maximum) and Lafon/Omega protocols.
For sites already equipped with Karbu Link, the minimum CPU firmware version must be V1.1B10.
Update to be done if needed.*

> **TOKHEIM KA Protocol with POS HERMES point of sale system :**
  • Type of communication: wired or wireless,
  • Multi-totems possible in wired or wireless mode.
  Requirements (single-totem and multi-totems):
   - Wired communication: on the point of sale side, provide one RS232 port per totem with an interface** RS232 to RS485/422 (Tokheim reference 960043),
   - Wireless communication : one pair of modems (Bodet reference 940421 or 940424) per totem is required.* On the point of sale side, provide for each totem one RS232 port with a specific cable** (Tokheim reference 041453) for the communication between the point of sale and each totem.

> **LAFON/OMEGA Protocol with ELYS point of sale system :**
  • Type of communication : wired or wireless,
  • Multi-totems possible in wired or wireless mode.
  Requirements :
   - Multi-totems : on the point of sale side, provide a current loop interface** per totem.

In the case of an upgrade of an existing site, a review of the wiring and configuration of the point of sale system may be required by the company responsible for its maintenance.

Contact our sales department.
*** Contact the company in charge of the maintenance of the point of sale system for the supply of this material.*

SALES REFERENCE CODES

• KarbuLink	940 401	• 25 mW point of sale-totem Karbulink HF pack 232/485	940 421
• Supervised KarbuLink	940 405	• 25 mW point of sale-totem Karbulink HF pack current loop	940 423
• KarbuPad remote control	940 411	• 25 mW totem-totem Karbulink HF pack	940 415
• IFSF KarbuLink converter	940 418	• 500 mW point of sale-totem Karbulink HF pack 232/485	940 424
• KarbuLink autotest kit	940 414	• 500 mW point of sale-totem Karbulink HF pack current loop	940 426
		• 500 mW totem-totem Karbulink HF pack	940 419

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