OPTIMISED

OPEN-ENDED

Elio

TRANSCEIVER

The Elio radio transceiver by JAY Electronique provides solutions to the wide range of functional needs involved in secure industrial applications. This highly flexible product integrates today's cutting edge technology for optimum performance.

MAIN FEATURES

→ Configurable, intelligent bi-directional radio link exchanges information while adapting to the radio environment.

→ Internal, unique SIM card contains all the transceiver and operator module parameters linked to the application, and :
- allows an operator module to associate to a transceiver by recovering the application configuration,
- allows you to quickly replace a transceiver if necessary.

→ Quick and easy setup of the product by mini-B USB connector and **iDialog** software setup (labels, feedback, alarms, mapping actuators/outputs, interlocks, network features, access by PIN codes).

→ Cable glands or industrial connector (not supplied) on transceiver for easy installation.

→ Spring-type, plug-in terminal strips facilitate wiring and maintenance.

FULLY COMPLIANT WITH EUROPEAN DIRECTIVES :

Machinery directive 2006/42/EC:
Emergency stop
→ SIL 3 per EN 61508
→ Performance level PL e per EN ISO 13849-1 and -2
EC type certificate issued by TÜV NORD

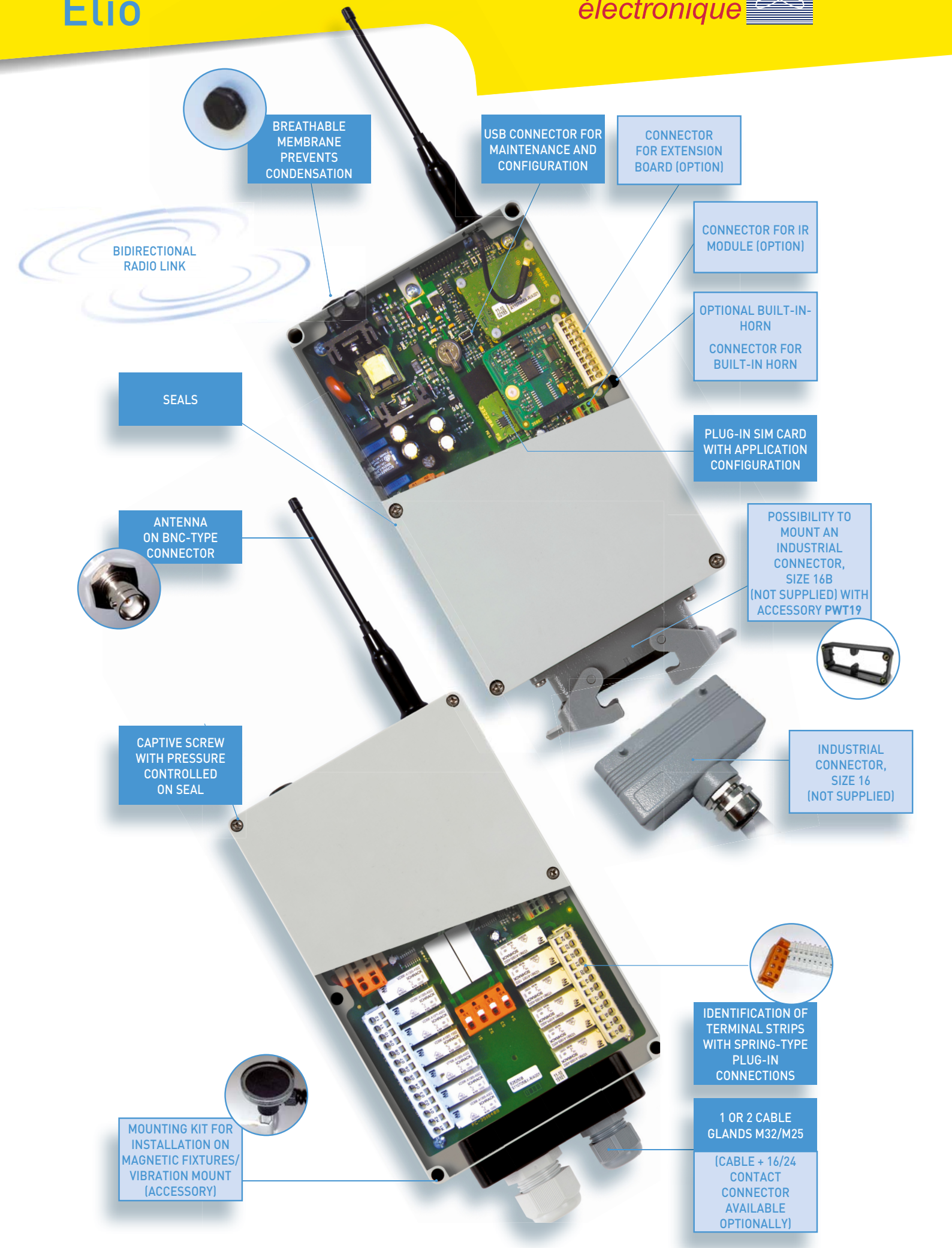
TÜV NORD CERT GmbH Type Tested
No 44 250 11 382580 003

Radio and telecommunication terminal equipment
(low voltage, electromagnetic compatibility, radio spectrum)
R&TTE 99/5/EC

TRANSCEIVER

Elio

Jay électronique



TRANSCEIVER

Elio

DESCRIPTION

The Elio transceiver is formed by a motherboard comprising :

→ 1 «On» relay (RM) (active when the «On/Validation» button on the operator module is pressed; not self-holding)

→ 2 safety relays (RS1& RS2) (active when the «On/Validation» button on the operator module is pressed; self-holding up to shutdown).

→ 12 function relays (R1 to R12)

→ 1 connector for connection up to 3 IR cells (optional). It is possible to increase this number to 9 with UDWR40 wiring interfaces (accessory).

→ 1 auxiliary connector for an extension board (optional)

→ 1 connector for connection of the internal horn

Wireless HMI Control (WHC)

Text messages or graphic images can be send from CANopen or Modbus Network and write on module operator display screen

Compatibility:

These transceivers operate with **Beta**, **Gama**, **Pika, Moka** operators modules, to be defined according the application.

TECHNICAL CHARACTERISTICS

MECHANICAL CHARACTERISTICS AND ENVIRONMENTAL WITHSTAND CAPACITY

Housing material	ABS,
Tightness	IP 65
Weight	2Kg (approx.)
Dimensions	160 x 250 x 120 mm max (not including antenna)
Operating temperature range	- 20°C to + 60°C
Storage temperature range	- 30°C to 70°C
Cable lead-out	- by 2 cable gland lead-outs - by industrial connector (not supplied, requires mounting accessory PWT19)
Cable connections	Spring-type plug-in connectors

RADIO CHARACTERISTICS

Frequency choice	- 11 programmable frequencies on 418-419 MHz band - 64 programmable frequencies on 433-434 MHz band - 12 programmable frequencies on 869 MHz band - 64 programmable frequencies on 911-918 MHz band
Transmit power	< 10 mW (license free)
Modulation	FM
Antenna	plug-in antenna on BNC connector ref: VUA001A (bands 418-419 MHz or 433-434 MHz) ref: VUA001B (bands 869 MHz or 911-918 MHz) Other antennas available as accessories
Average range [1]	100 m in industrial environment [1] 300 m in open space [1]

ELECTRICAL CHARACTERISTICS

Power supply voltage	- 12 VDC - 12 % to 24 VDC +25 % - 12 VDC - 5 % to 24 VDC +25 % and 24/48 VAC ± 25 % - 115/230 VAC ± 15 %
Maximum consumption	8 W

SECURE RELAY OUTPUTS

Type of contacts	2 relays with linked contacts
Contacts and connections	2 connection points, potential free, by contact Spring-type plug-in connectors
Characteristics of contacts	Max. current 6A

SECURE RELAY OUTPUTS

Contacts and connections	2 relays with linked contacts Spring-type plug-in connectors
Command	1 «On» relay + 12 function relays
Outputs	Independent NO relays - Category DC13 0,5A / 24VDC , AC15 2A / 230VAC - Interrupting capacity 2000VA max. - Max. current 8A - Min. current 10 mA (12 Vmin.) - Max. voltage. 250VAC
Response time	- On startup : 0,5s max - On command : 300ms max
Active stop time	100 mst
Passive stop time	adjustable between 0.5 and 2s
Indication	- 1 green indicator light : Radio status and quality - 1 yellow indicator light : Power on - 1 red indicator light : fault and diagnostic
Power supply protection	- Against polarity inversions - Against overcurrents by fuse

[1] Range varies according to environment conditions around operator module and reception antenna (steel works, metal walls ...).

ADDITIONAL OPTIONS

EXTENSION BOARD TO COMMUNICATE WITH EQUIPMENT USING OTHER COMPLEMENTARY ELECTRICAL SIGNALS

Galvanic insulation	> 2,5kV
2 logic inputs :	
Contacts and connections	4 connection points with spring-type plug-in connectors
Active input consumption	< 20mA
High level on input	> 3Vdc
Low level on input	< 2Vdc
Voltage	0-30Vdc Max
1 analogue input :	
Contacts and connections	2 connection points with spring-type plug-in connectors
Type of signal	0-10V or 4-20mA
Active voltage input consumption	< 10mA
1 analogue output:	
Contacts and connections	2 connection points with spring-type plug-in connectors
Type of signal	0-10V or 4-20mA
Voltage output max. current	< 10mA
1 RS 485 serial link:	
Contacts and connections	2 connection points with spring-type plug-in connectors
Protocol	Modbus RTU slave
Data rate	1200, 2400, 4800, 9600, 19200 (default), 38400, 57600, 115200 bit/s
Parity	none / even (default) / odd
Slave addressing	1 to 247

STARTUP BY IR VALIDATION

ACTION AREA LIMITATION

BUILT-IN HORN

Power	100 dB

SYNCHRONIZATION OF EQUIPMENT

- Master / Master
- Tandem
- Pitch and Catch

OPERATOR MODULE / TRANSCEIVER SELECTION AND ASSOCIATION BY INFRARED

ACCESSORIES : antennas

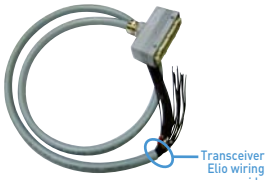
Description	Reference for use in 418 and 433 MHz frequency bands (A)	Reference for use in 869 and 915 MHz frequency bands (B)	Picture
Straight antenna, 1/4 wave, BNC (1)	VUA001A	VUA001B	 approximate length : A = 190mm ; B = 90mm
Straight antenna, 1/2 wave, BNC	VUA002A	VUA002B	 approximate length : A = 335mm ; B = 250mm
Through insulated remote antenna, 1/2 wave, with 0,5m BNC cable	VUA100AH	VUA100BH	 approximate length : A = 320mm ; B = 190mm Required drill hole Ø15mm
Through insulated remote antenna, 1/2 wave, with 2m BNC cable	VUA102AH	VUA102BH	
Through insulated remote antenna, 1/2 wave, with 5m BNC cable	VUA105AH	VUA105BH	
Through insulated remote antenna, 1/2 wave, with 10m BNC cable	VUA110AH	VUA110BH	
Insulated and magnetic remote antenna, 1/2 wave, with 3m BNC cable	VUA103AM	VUA103BM	 approximate length : A = 440mm ; B = 320mm
Insulated and magnetic remote antenna, 1/2 wave, with 5m BNC cable	VUA105AM	VUA105BM	
Through uninsulated remote antenna, 1/4 wave, with 3m BNC cable	VUA103AV	VUA103BV	 (antenna to be mounted on a not grounded metal surface approximate length : A = 180mm ; B = 100mm Required drill hole Ø12mm or Ø19mm (according mounting type)
Through uninsulated remote antenna, 1/4 wave, with 5m BNC cable	VUA105AV	VUA105BV	

(1) : antenna supplied as standard with the transceiver

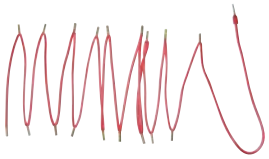
OTHER ACCESSORIES

Cable gland kit PE M25 with 2 wire grommets
Reference: PWT01

2m cable + 16-pin male connector
Reference : UDWR14



2m cable + 24-pin male connector
Reference : UDWR13



Wiring accessories for common points
Reference: PWT02

Mounting accessory for industrial connector
Reference : PWT19

1 IR module
(10m cable and plastic M16 cable gland included) for options : startup by IR validation or limitation of action area by IR system
Reference : PWT20

10m cable extension + connector
for PWT20 IR module
Reference : UDWR10

Wiring interface to connect 3 infrared IR modules PWT20 on a Transceiver IR input
(delivered with 10 m cable to be connected to the Transceiver IR input and mounting kit using 2 magnetic fastening pads)
Reference : UDWR40

Transceiver mounting kit using magnetic fixtures
Reference: UDWR38

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