COMPACT DESIGN

COMMUNICATING SYSTEM

TRANSCEIVER

Timo

The Timo radio transceiver by JAY Electronique provides solutions to the broad range of functional needs of secure mobile applications, through a wide variety of input/output interfaces. 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 product configuration by mini-B USB connector and thanks iDialog software.

→ Cable glands, circular connector (M12, C16) or industrial connector (10, 16 contacts) on transceiver for easy installation.

→ Spring-type terminal strips ensuring a good vibration withstand capacity.

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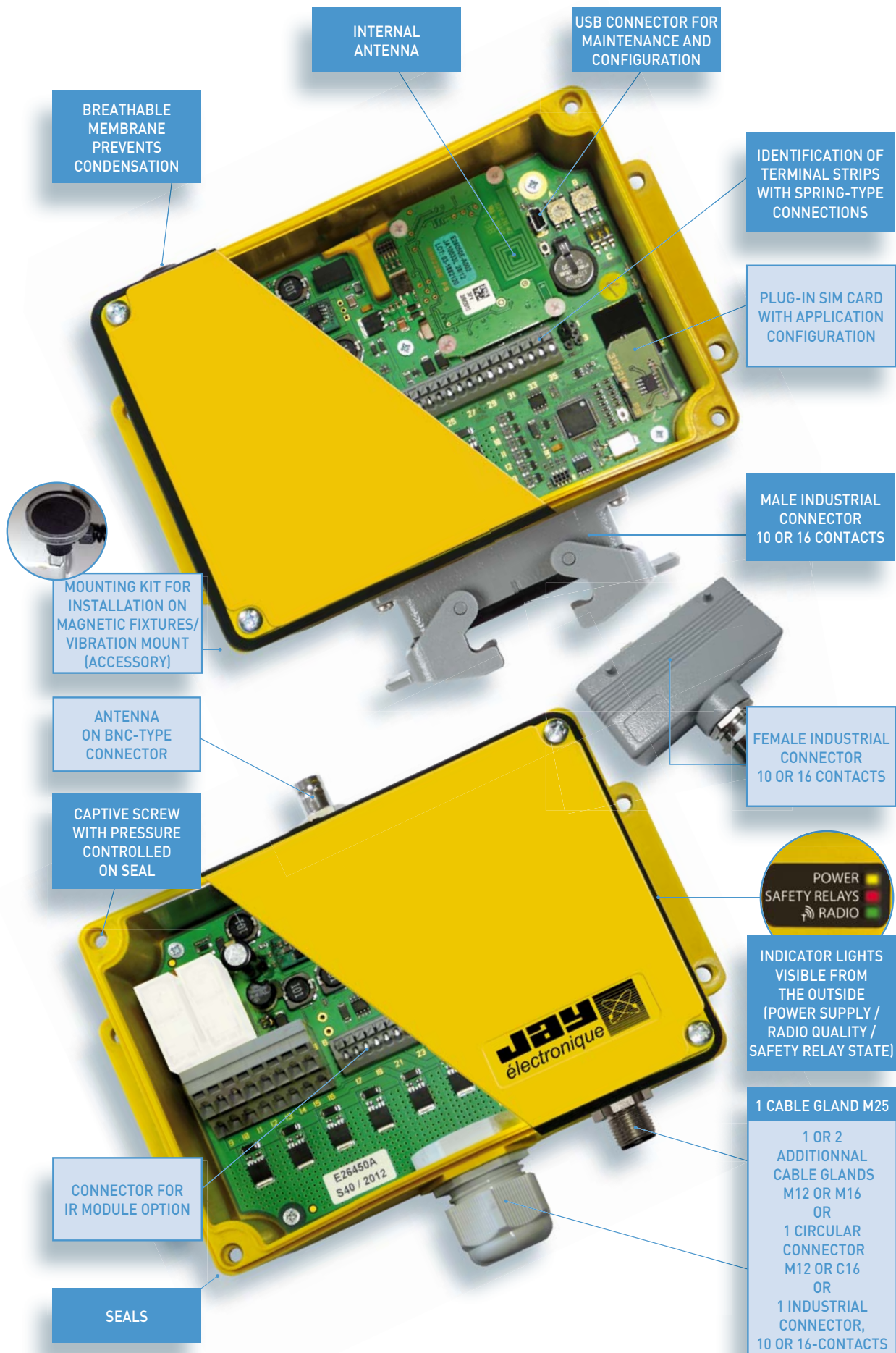
Machinery 2006/42 :
Emergency stop
→ SIL 3 per EN 61508
→ Performance level PL e per EN ISO 13849-1 and -2
EC type certificate issued by
TÜV NORD

TÜV NORD
TÜV NORD CERT
GmbH
Type Tested

No 44 250 11 382580 007

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

Jay électronique

INTERNAL ANTENNA

USB CONNECTOR FOR MAINTENANCE AND CONFIGURATION

BREATHABLE MEMBRANE PREVENTS CONDENSATION

IDENTIFICATION OF TERMINAL STRIPS WITH SPRING-TYPE CONNECTIONS

PLUG-IN SIM CARD WITH APPLICATION CONFIGURATION

MALE INDUSTRIAL CONNECTOR 10 OR 16 CONTACTS

MOUNTING KIT FOR INSTALLATION ON MAGNETIC FIXTURES/ VIBRATION MOUNT (ACCESSORY)

ANTENNA ON BNC-TYPE CONNECTOR

FEMALE INDUSTRIAL CONNECTOR 10 OR 16 CONTACTS

CAPTIVE SCREW WITH PRESSURE CONTROLLED ON SEAL

POWER
SAFETY RELAYS
RADIO

INDICATOR LIGHTS VISIBLE FROM THE OUTSIDE (POWER SUPPLY / RADIO QUALITY / SAFETY RELAY STATE)

1 CABLE GLAND M25

1 OR 2 ADDITIONNAL CABLE GLANDS M12 OR M16 OR 1 CIRCULAR CONNECTOR M12 OR C16 OR 1 INDUSTRIAL CONNECTOR, 10 OR 16-CONTACTS

CONNECTOR FOR IR MODULE OPTION

SEALS

E26450A
S40 / 2012

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JaY
électronique

DESCRIPTION

The Timo transceiver is formed by a motherboard comprising :

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

→ 6 transistor outputs with common contact independent with respect to power supply, type logic or PWM

→ 2 analog outputs

→ 2 logic inputs

→ 1 analog input

→ 1 RS485 modbus interface

→ 1 CANopen interface

→ 1 terminal strip to connect up to two infrared modules (optional)

TECHNICAL CHARACTERISTICS

MECHANICAL CHARACTERISTICS AND ENVIRONMENTAL WITHSTAND CAPACITY

Housing material	Fiberglass polyamide
Tightness	IP 65
Weight	585g
Dimensions	190 x 120 x 60 mm max (not including attachment fittings and antenna)
Operating temperature range	- 20°C to + 60°C
Storage temperature range	- 30°C to + 70°C
Cable lead-out	Several possibilities: - via 1 or several cable gland lead-outs - via a plug-in industrial connector, 10 or 16-contacts -via a M12 or C16 circular connector
Cable connections	Spring-type terminal strips

RADIO CHARACTERISTICS

Frequency	- 64 programmable frequencies on 433-434 MHz band - 12 programmable frequencies on 869 MHz band
Transmit power	< 10 mW (license free)
Modulation	FM
Antenna	Internal antenna (option: plug-in antenna on BNC connector)
Average range [1]	External antenna : 250 m in congested environment [1] 300 m in clear environment [1] Internal antenna : 100 m in clear environment [1]

ELECTRICAL CHARACTERISTICS

Power supply voltage	9 to 30 VDC
Maximum consumption	4 W
Power supply protection	- against polarity inversions - against overcurrents by fuse
Response time	On startup : 0,5s max On command : 300 ms max
Active stop time	100 ms
Passive stop time adjustable	between 0,5 to 2s
Indication	- 1 green indicator light : Radio status and quality (visible with housing closed) - 1 yellow indicator light : Power on (visible with housing closed) - 1 red indicator light : Safety relay status (visible with housing closed) - 2 red indicator lights : malfunction and diagnostic (visible with housing open) - 1 red indicator light : indicates activation of transistor outputs (visible with housing open)

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

SECURE RELAY OUTPUTS

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

AVAILABLE FUNCTIONS

Transistor outputs

Contacts and connections	1 connection point per output + 1 power supply common contact spring-type terminal strips
Outputs	- Max. Interrupting capacity 4A/output - Max. admissible current for all outputs 12A - Max. voltage 30VDC - PWM (frequency of 1 to 300Hz, duty cycle of 1 to 90%)

Logic inputs

Contacts and connections	2 connection points per input Spring-type terminal strips
High level on input	> 3 VDC
Low level on input	< 2 VDC
Voltage	0-30Vdc Max
Active input consumption	< 20mA

Analog outputs

Contacts and connections	1 connection point per output + common contact spring-type terminal strips
Type of signal	0-10V or ¼ to ¾ of max. reference voltage of 30VDC
Max. output current	< 10mA

Analog input

Contacts and connections	1 connection point + common contact spring-type terminal strips
Type of signal	0-30V
Active voltage input consumption	< 10mA

Modbus 1 RS 485 serial link

Contacts and connections	2 connection points spring-type terminal strips
Protection (D+/D-)	ESD/EMI
Rate	1200, 2400, 4800, 9600, 19200 (default), 38400, 57600, 115200 bits/s
Parity	- none - even (default) - odd
Slave addressing	1 to 247 (100, default)

Bus CANopen CIA401 compatible

Contacts and connections	2 connection points spring-type terminal strips
Rate	20, 50, 100, 125, 250, 500, 800 kbits/s and 1Mbits/s
Slave addressing	1 to 127

ADDITIONAL OPTIONS

STARTUP BY IR VALIDATION

ACTION AREA LIMITATION BY IR

OPERATOR MODULE / TRANSCEIVER ASSOCIATION

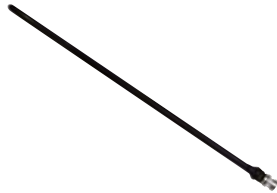**SYNCHRONISATION OF EQUIPMENT**

**Straight antenna,
1/4 wave, BNC**
Reference : VUB084

**Short straight antenna,
1/4 wave, BNC**
Reference : VUB082

**Straight antenna,
1/2 wave, BNC**
Reference : VUB086

**0.5 m extension
for BNC antenna**
Reference : VUB170

**2 m extension
for BNC antenna + bracket**
Reference : VUB105

**5 m extension
for BNC antenna
+ bracket**
Reference : VUB125

**10 m extension
for BNC antenna
+ bracket**
Reference : VUB131

**Transceiver
mounting kit
using magnetic fixtures**
Reference : UDWR38

**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

**Female industrial
connector kit**
10 points, reference : PWT15
16 points, reference : PWT16

**C16 screw-type female
circular connector with 7
contacts**
Reference : PWM203

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

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

**M12 female circular connector
with 5 contacts + 2m cable**
Reference : PWT17

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