# **RADIO REMOTE SYSTEMS**



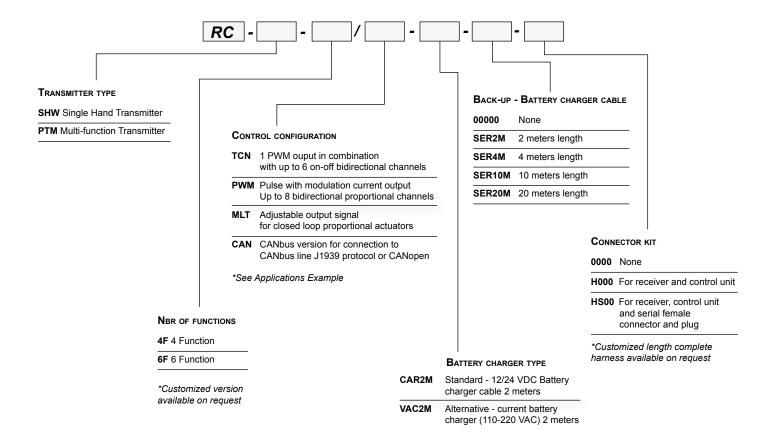
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## ORDERING INFORMATION





### RC-PTM-4F 4-FUNCTIONS PTM RADIO TRANSMITTER

### **DESCRIPTION**

Compact multi-function shoulder strap radio remote controller, for use with Tecnord radio receivers / transceivers. Four proportional paddle levers (JLP type) and toggle switches for auxiliary functions. RC-PTM radio remote controller is designed to allow remote operation of machines. It is best suited for machines equipped with a CAN-based control system. Its multi-function structure allows simultaneous operation of all the available functions.

### **OPERATION**

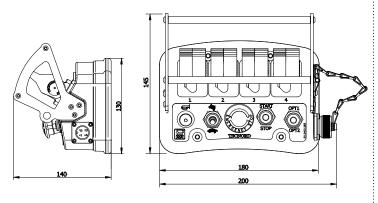
RC-PTM-4F Compact Controller is equipped with 4 proportional paddle levers (Tecnord JLP type). Additional operators are available for radio enable, reduced speed selection and auxiliary functions.

A STOP pushbutton is available to immediately stop the machine in case of hazard. Battery and battery charger are internal; a connector is provided for battery charging and backup cable communication. The transmission technology used allows high immunity to interference and long operating range. Co-existence between multiple RC-PTM units is also allowed. A unique code allows the RC-PTM controller to operate only with its coupled radio receiver.

## **FEATURES**

- · Battery power supply: NiMH rechargeable cells.
- · Cable power supply: from vehicle's battery, for battery charge.
- CANbus line (standard J1939, option CANopen) is provided for backup cable communication.
- Standard battery charge cable with cigarette-lighter plug.
- Optional serial cable (CANbus + battery charge).
- · Vibration and shock resistant.
- · CE, FCC, IC certifications available.
- · Shoulder strap provided as standard.

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4484 Boeing Drive Rockford, IL 61109 • USA • Phone +1 (815) 397-6628 • Fax +1 (815) 397-2526



SPECIFICATIONS	
Operating voltage (internal battery):	4.7÷6 VDC
Operating voltage (serial cable):	8÷32 VDC
Max current consumption:	200 mA
Operating temperature:	-40 ÷ +85°C
Operating Frequency Band:	2402÷2480 MHz
Transmission type:	BT 2.1 + EDR
Antenna:	Built-in (internal)
Diagnostics:	1 LED for the controller's status
	(more LEDs available as option)
CANbus physical layer:	ISO 11898
CANbus protocol:	J1939 (standard)
	CANopen (option)
Connector type:	IT connector, 4 poles female
Housing material:	Polycarbonate
Weight:	< 1Kg (4F)
Environmental protection:	IP 65

RC ORDERING INFORMATION: see page RC3

WARNING: the specifications/application data shown in our catalogs and data sheets are intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.



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# **TECNORD**

### RC-PTM-6F 6-FUNCTIONS PTM RADIO TRANSMITTER

### **DESCRIPTION**

Compact multi-function shoulder strap radio remote controller, for use with Tecnord radio receivers / transceivers. Six proportional paddle levers (JLP type) and toggle switches for auxiliary functions. RC-PTM radio remote controller is designed to allow remote operation of machines. It is best suited for machines equipped with a CAN-based control system. Its multi-function structure allows simultaneous operation of all the available functions.

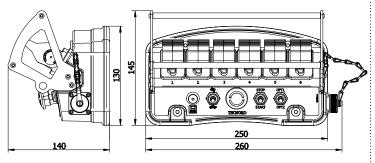
### **OPERATION**

RC-PTM-6F Standard Controller is equipped with 6 proportional paddle levers (Tecnord JLP type). Additional operators are available for radio enable, reduced speed selection and auxiliary functions. A STOP pushbutton is available to immediately stop the machine in case of hazard. Battery and battery charger are internal; a connector is provided for battery charging and backup cable communication. The transmission technology used allows high immunity to interference and long operating range. Co-existence between multiple RC-PTM units is also allowed. A unique code allows the RC-PTM controller to operate only with its coupled radio receiver.

## **FEATURES**

- Battery power supply: NiMH rechargeable cells.
- · Cable power supply: from vehicle's battery, for battery charge.
- CANbus line (standard J1939, option CANopen) is provided for backup cable communication.
- · Standard battery charge cable with cigarette-lighter plug.
- Optional serial cable (CANbus + battery charge).
- · Vibration and shock resistant.
- · CE, FCC, IC certifications available.
- · Shoulder strap provided as standard.

## **DIMENSIONS**





SPECIFICATIONS	
Operating voltage (internal battery):	4.7÷6 VDC
Operating voltage (serial cable):	8÷32 VDC
Max current consumption:	200 mA
Operating temperature:	-40 ÷ +85°C
Operating Frequency Band:	2402÷2480 MHz
Transmission type:	BT 2.1 + EDR
Antenna:	Built-in (internal)
Diagnostics:	1 LED for the controller's status
	(more LEDs available as option)
CANbus physical layer:	ISO 11898
CANbus protocol:	J1939 (standard)
	CANopen (option)
Connector type:	IT connector, 4 poles female
Housing material:	Polycarbonate
Weight:	< 1.2Kg (6F)
Environmental protection:	IP 65

RC ORDERING INFORMATION: see page RC3

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# **TECNORD**

## RC-SHW- F 4/6-FUNCTIONS METER-IN SHW RADIO TRANSMITTER

### **DESCRIPTION**

Single-hand radio controller (transmitter/transceiver) with CANbus interface. For use with Tecnord RX-CAN radio receivers or as standalone controller for CANbus based systems. RC-SHW- F radio controller is designed to allow radio remote operation of machines equipped with a CAN-based control system. Its compact and ergonomic design allows easy operation: with asingle hand all operators, on-off and proportional, are available. RC-SHW-\_F standard configuration includes 4 or 6 toggle switches for on-off selection of the function(s) and one proportional trigger for proportional speed control. Additional operators are available for radio enable and auxiliary functions. A STOP push button is available to immediately stop the machine in case of hazard. Battery and battery charger are internal; a connector is provided for battery charging and backup cable communication. The transmission technology used allows high immunity to interference and long operating range. Co-existence between multiple radio units is also allowed. A unique code allows the RC-SHW- F controller to operate only with its coupled radio receiver. Standard cable communication protocols include CANopen and J1939. Customized protocols are available for OEMs.

#### **FEATURES**

- · Standard power supply from internal battery pack (rechargeable).
- Power supply line from the cable is protected against reversed polarity and overvoltage.
- · CANbus line is protected against short circuits to GND and supply.
- · Microprocessor based.
- · Robust plastic enclosure.
- · CE, FCC, IC certifications available
- Electro Magnetic Compatibility (EMC): EN 61000-6-2 (Immunity)
  EN 61000-6-3 (Emissions)

SPECIFICATIONS	
Operating voltage (internal battery):	4.7÷6 VDC
Operating voltage (serial cable):	8÷32 VDC
Max current consumption:	250 mA
Operating temperature:	-40 ÷ +85°C
Operating Frequency Band:	2402÷2480 MHz
Transmission type:	BT 2.1 + EDR
Antenna:	Built-in (internal)
Diagnostics:	1 LED for the controller's status
	(more LEDs available as option)
	1 buzzer
CANbus physical layer:	ISO 11898
CANbus protocol:	J1939 (standard)
	CANopen (option)
Connector type:	M12, 4 pins
Housing material:	thermoplastic POM
	(different colours available)
Weight:	< 1Kg (4F)
Environmental protection:	IP 65



## **DIMENSIONS**





# **APPLICATIONS**

- Remote control of aerial platforms, telehandlers, agricultural machines and lift equipment equipped with CANbus systems.
- Stand-alone CANbus controller in both 12 VDC and 24 VDC systems.

RC ORDERING INFORMATION: see page RC3

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### RX-CAN-2G4 CANBUS RADIO RECEIVER

## **DESCRIPTION**

Compact radio receiver / transceiver with CANbus interface. For use with Tecnord single-hand or multifunction Radio Transmitters.

#### **OPERATION**

RX-CAN radio transceiver is designed to allow radio remote operation of machines equipped with a CAN-based control system. Its compact and rugged design allows easy installation, even in weather-exposed locations on the machine. Standard communication protocols include CANopen and J1939.

Customized protocols are available for OEMs. Each Tecnord Radio is produced with a unique identifier (System ID). In case of lost Transmitter, a simple self-learning procedure allows to match a new spare transmitter. The transmission technology used allows high immunity to interference and long operating range. Co-existence between multiple units is also allowed. A unique code allows the RX-CAN transceiver controller to operate only with its coupled radio transmitter.

### **FEATURES**

- · Supply line is protected against reversed polarity and overvoltage.
- · CANbus line is protected against short circuits to GND and supply.
- · Microprocessor based.
- Vibration and shock resistant.
- Easy installation with 4 screws (option: magnet).
- · CE, FCC, IC certifications available
- Electro Magnetic Compatibility (EMC): EN 61000-6-2 (Immunity)
  EN 61000-6-3 (Emissions)

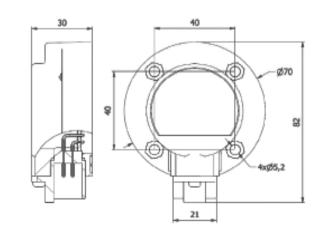
SPECIFICATIONS	
Operating voltage:	6.5 ÷ 30 VDC
Max current consumption:	200 mA
Operating temperature:	-40 ÷ +85°C
Environmental protection:	IP 68
Operating Frequency Band:	2402 ÷ 2480 MHz
Transmission type:	BT 2.1 + EDR
Antenna:	Built-in (internal)
Diagnostics:	1 LED for the radio link status
	1 LED for the CANbus status
CANbus physical layer:	ISO 11898
CANbus protocol:	J1939 (standard)
	CANopen (option)
Connector type:	Deutsch DT04-4P

### **APPLICATIONS**

- 12 VDC and 24 VDC systems.
- Remote control of aerial platforms, telehandlers, agricultural machines and lift equipment equipped with CANbus systems.



# **DIMENSIONS**



# CONNECTIONS



### Deutsch DT04-4P

- 1 +V (POWER SUPPLY)
- 2 CAN H
- 3 CAN L
- 4 -V (POWER SUPPLY GND)

# RX ORDERING INFORMATION: see page RC3

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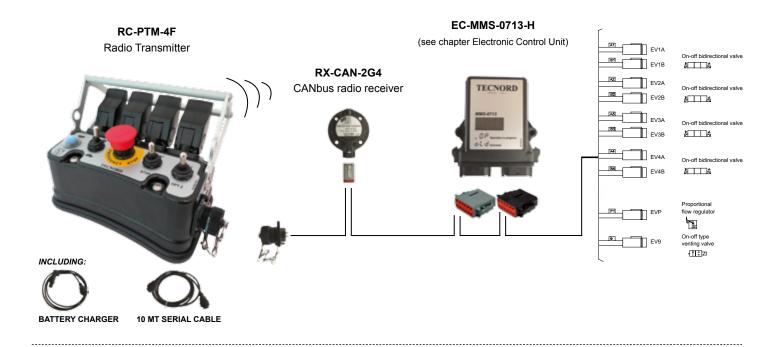


# **TECNORD**

: Via Malavolti, 36 • 41122 Modena • ITALY • Phone +39 (059) 254895 • Fax +39 (059) 253512 : mail: tecnord@tecnord.com • www.tecnord.com

### **APPLICATION EXAMPLE**

# Model: RC-PTM-4F/TCN-CAR2M-SER10M-0000



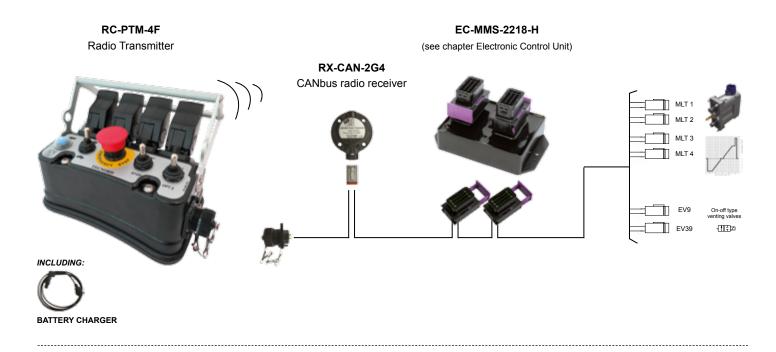
# Model: RC-PTM-4F/PWM-CAR2M-00000-0000



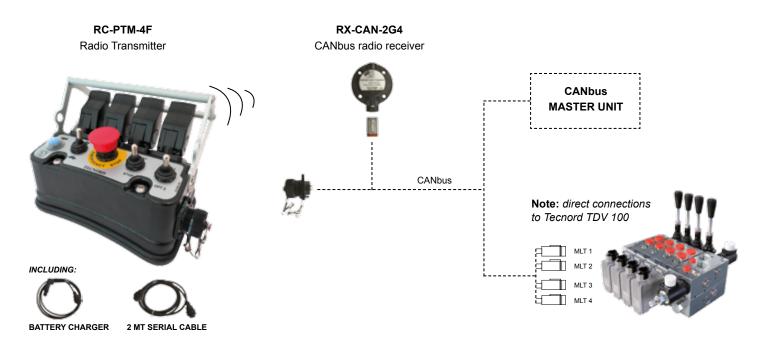


### **APPLICATION EXAMPLE**

# Model: RC-PTM-4F/MLT-CAR2M-00000-0000



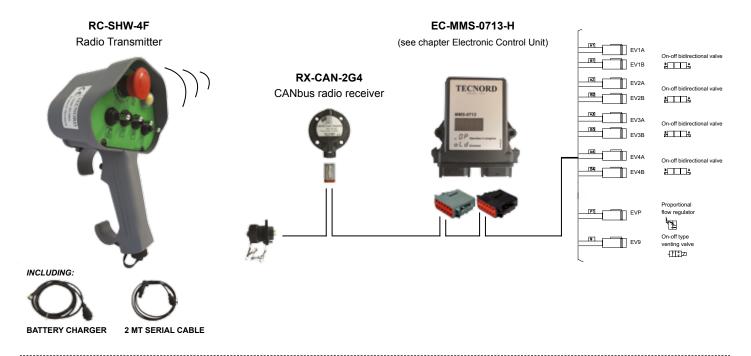
# Model: RC-PTM-4F/CAN-CAR2M-SER2M-H000



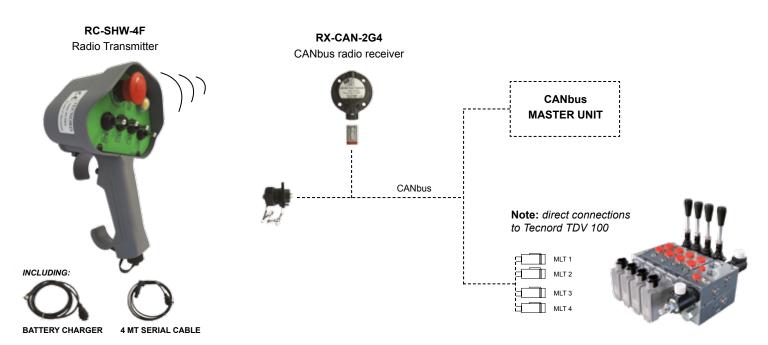


### **APPLICATION EXAMPLE**

# Model: RC-SHW-4F/TCN-CAR2M-SER2M-0000



# Model: RC-SHW-4F/CAN-CAR2M-SER4M-0000





### SERIAL AND BATTERY CHARGER CABLES

ACCESSORIES

# **BATTERY CHARGER CABLE IT (standard)**

Kit includes: 12-24 VDC Battery charger cable - IT - 2 meters

Available for PTM Transmitter

CAR2M - 2 meters **ORDERING CODE: 22.0611.104** 



## **BATTERY CHARGER CABLE M12 (standard)**

Kit includes: 12-24 VDC Battery charger cable - M12 - cigarette lighter plug - 2 meters

Available for SHW Transmitter

CAR2M - 2 meters **ORDERING CODE: 22.0611.119** 



# **BATTERY CHARGER (110-220 VAC) CABLE IT**

Kit includes: 110-220 VAC Battery charger cable - IT - 1.5 meters

Available for PTM Transmitter

VAC2M - 1.5 meters **ORDERING CODE: 22.0611.134** 



## **BATTERY CHARGER (110-220 VAC) CABLE M12**

Kit includes: 110-220 VAC Battery charger cable - M12 - 1.5 meters

Available for SHW Transmitter

VAC2M - 1.5 meters ORDERING CODE: 22.0611.135



## SERIAL AND BATTERY CHARGER CABLE IT/IT

Kit includes: serial and Battery charger cable IT/IT - 2, 4, 10, 20 meters

Available for PTM Transmitter

ORDERING CODE: 22.0611.105 SER2M - 2 meters SER4M - 4 meters ORDERING CODE: 22.0611.114/A **ORDERING CODE: 22.0611.103** SER10M - 10 meters SER20M - 20 meters ORDERING CODE: 22.0611.101



## SERIAL AND BATTERY CHARGER CABLE IT/M12

Kit includes: serial and Battery charger cable IT/M12 - 2, 4, 10, 20 meters

Available for SHW Transmitter

ORDERING CODE: 22.0611.044 SER2M - 2 meters SER4M - 4 meters **ORDERING CODE: 22.0611.120** SER10M - 10 meters ORDERING CODE: 22.0611.065 SER20M - 20 meters ORDERING CODE: 22.0611.131





## **CONNECTOR KITS**

# **4 POLES DEUTSCH DT06-4S**

Kit includes: male connector, female contacts, secondary lock and fillers

Available for Radio receiver: RX-CAN

**ORDERING CODE: 13.0310.132** 



## 12 POLES "DEUTSCH DTM06-12SA & DTM06-12SB"

Kit includes: male connector, female contacts,

secondary lock and fillers

Available for electronic control unit: EC-MMS-0713-H

**ORDERING CODE: 13.0310.253** 



## 24 POLES SICMA BLACK COLOR

Kit includes: male connector, female contacts, locking cum, fillers

Available for electronic control unit: EC-MMS-2218-H; EC-MMS-1521-H

**ORDERING CODE: 13.0310.150** 



## 24 POLES SICMA GREY COLOR

Kit includes: male connector, female contacts, locking cum, fillers

Available for electronic control unit: EC-MMS-1521-H

**ORDERING CODE: 13.0310.634** 



# HARNESS - IT SERIAL FEMALE CONNECTOR AND PLUG

**ORDERING CODE: 50.1005.118** IT female connector IT4 Plug with chain **ORDERING CODE: 50.1005.116** 



