Short guide

ME401-2

Version 1.0, May 2013
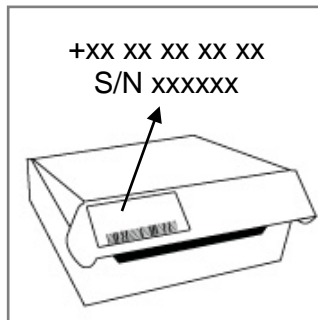
Practical advice
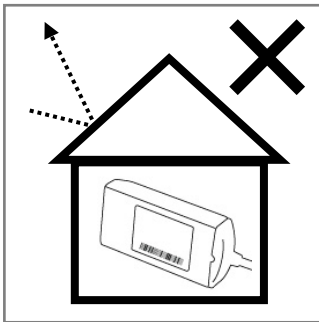
1. Save important numbers
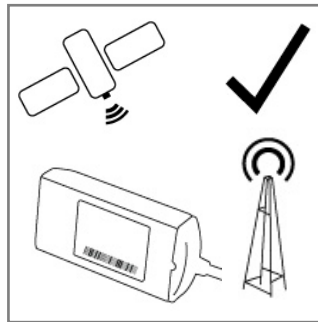
Serial number located on the unit

GSM number and unit serial number is located on the box. Label can be peeled off and saved for later use.
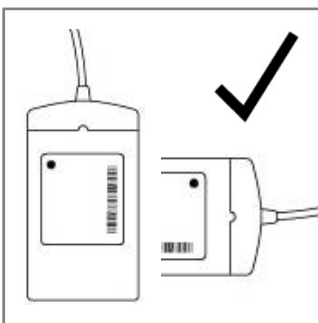
2. Installation is best done outside

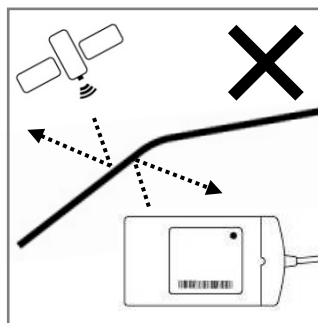*Do not perform installation inside a building*

Install the unit outside for better GPS and GSM signal

3. Correct location of the unit

Locate the unit as shown for optimal signal conditions

Avoid installing the unit directly under a layer of metal or next to wires.

Installation of the ME401-2 in machinery and vehicles

Guidelines for correct wiring:

No.	Wire color		Connection	Description
1	Red	▬	Power	Connect to permanent 12/24V supply through a 1A fuse
2	White	▬	Digital input 1	Connect to the operating hours counter [1] **Mandatory for machines!**
3	Brown	▬	Digital input 2	Connect to the ignition signal [1] **Mandatory for vehicles and machines!**
4	Grey	▬	Digital input 3	Can be connected to an external sensor or a RFID card reader [1]
5	Pink	▬	Digital input 4	Can be connected to an external sensor for detecting a critical running mode or an alarm [1][4]
6	Green	▬	1-wire input	Can be connected to iButton reader or temperature sensor
7	Yellow	▬	Digital output 1	Can be used to control external equipment through a relay [2][3]
8	Blue	▬	Ground	-

[1] Min. 8V DC voltage at input
[2] Max. Load 200 mA
[3] Do NOT use this output to switch off vehicles and machines during operation or driving
[4] If Main Switch disconnect negative wire (chassis/GND) from battery, it might cause false input activity.
 To avoid that, Pink wire should be connected to the chassis/GND, Blue Wire should be connected
 to battery minus pole and input filtering must be activated (see page 4)

LED
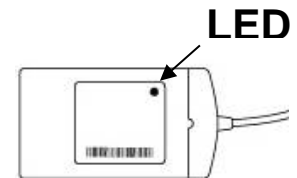
Functionality check: LED on the unit

Status	LED mode	LED color	Status indication
✓	Red flashing light and constant green light in LED	▬ ▬ ▬ ▬▬▬	GSM network is OK and GPS has valid satellite position
!	No light in LED		No power supply
!	Constant red light and no green light in LED	▬▬▬	Power supply is OK but NO GSM network GPS has NO satellite position
!	Red flashing light and no green light in LED	▬ ▬ ▬	GSM network is OK GPS has NO satellite position
!	Constant red and green light in LED	▬▬▬ ▬▬▬	Power supply is OK but NO GSM network GPS has valid satellite position

Verification of installation status with SMS Commands:

Verification	Send SMS	Return SMS from unit
GPS and GSM signal	*MT SIGNAL*	*MTC ACK (SERIAL No.) SIGNAL: GSM=22, SAT=8, SN=44* **Poor** **Good** **Excellent** *GSM: Signal strength:* 0-10 → 11-20 → 21-31 *SAT: Number of satellites:* 0-3 → 4-5 → 6- *SN: GPS signal quality:* 0-27 → 28-34 → 35-
Inputs *NOTE: This command can be sent to the unit under various operational conditions like: Machine running, ignition only or off.*	*MT STAT*	*MTC ACK (SERIAL No.) INPUT STATUS: INPUT1 LOW, INPUT2 HIGH, INPUT3 LOW, INPUT4 LOW, CHARGE VOLTAGE ON, SERIAL No.* *NOTE:* **Input LOW < 8V < input HIGH**

Activation of input filtering

Function	Send SMS	Return-SMS from the unit
Activate filter function on inputs	*MT INFILT ON*	*MTC ACK (SERIAL No.) INFILT ON*

NOTE:
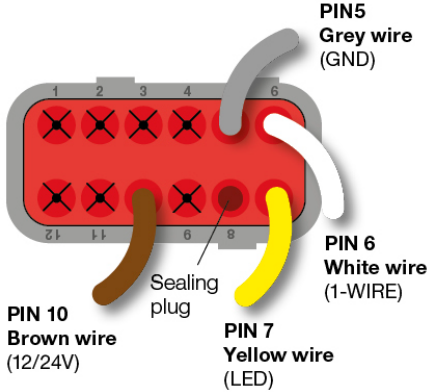*Enabling the filtering function will disable the use of the alarm function on digital input 4.*

Troubleshooting

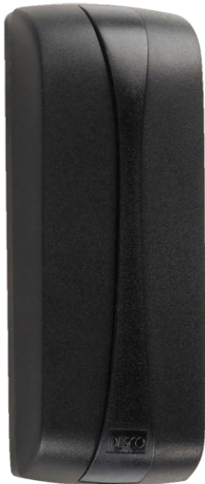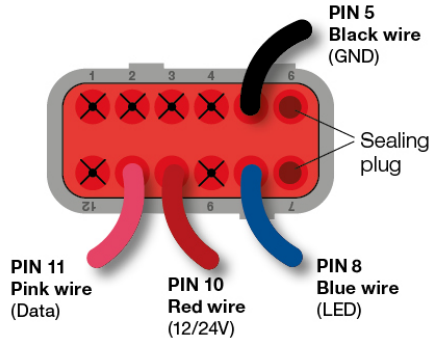| Error description	Possible solutions
No reply on SMS command	• Verify correct GSM number • Check LED status – see page 3
No light in LED	• Check if red wire and blue wire are installed correctly or if fuse is blown
Constant red light in LED	• Verify location of the unit – see page 2 • Move machine or vehicle for better GSM signal
No green light in LED	• Verify location of the unit – see page 2 • Move machine or vehicle for better GPS reception
Inputs counting operating hours when machine is off	• In case the main switch on the machine will disconnect the negative wire (Ground wire), the inputs may register a voltage level and start counting operating hours • To avoid this situation the digital input 4 (Pink wire) should be connected to the chassis/ground on the machine • Send MT INFILT ON to the unit (SMS to phone number) to activate the filtering

Please contact your Trackunit dealer if problems continue. Please have the unit serial number ready.
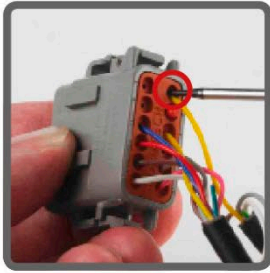
Accessories

Trackunit iButton Reader:

iButton Reader	iButton Reader connections
	PIN5 Grey wire (GND) PIN 6 White wire (1-WIRE) PIN 10 Brown wire (12/24V) Sealing plug PIN 7 Yellow wire (LED)

iButton keys	Terminals	Relay

Trackunit RFID Reader:

RFID Reader	RFID Reader connections
	PIN 5 Black wire (GND) Sealing plug PIN 11 Pink wire (Data) PIN 10 Red wire (12/24V) PIN 8 Blue wire (LED)

RFID card	Terminals	Relay

Connector assembly:

Step 1:
Push contacts into the connector grommet until it CLICKS.
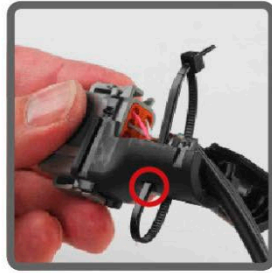
Step 2:
Put the connector into back shell and use strips for fixating the wires.
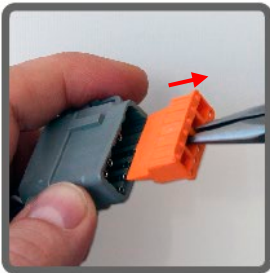Cut off unnecessary strip.

Step 3:
Close the connector back shell until it CLICKS.
Avoid squeezing wires.
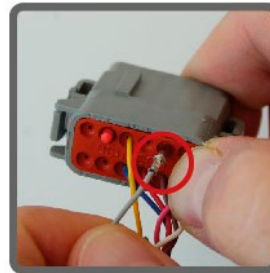
Step 4:
Insert orange wedge until it CLICKS.

Connector removal:
(Reader replacement)

Step 1:
Pull out orange wedge.

Step 2:
Remove contacts with a gentle pull while releasing the locking finger with a screwdriver.

Step 3:
Hold the connector with your finger and gently pull out the contact.

Relay: (immobilizer)

OUT1 must be connected to the relay. Verify relay voltage specifications complies with the machine or vehicle voltage (12V or 24V).

Relay	Function	Signal
86	Relay Coil +	12/24V permanent power
85	Relay Coil -	Yellow wire from ME401 (OUT1)
87	Starter Control Signal	
30	Signal to starter motor	

Relay connections:
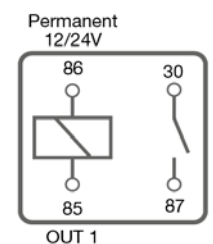
Product specifications

The ME401 unit is a GSM/GPRS quad-band-unit with GPS, integrated antennas and backup battery.

Connections	
Operational voltage (supply voltage):	12 - 24 V DC
Absolute maximum voltage range:	6 - 50 V DC

Temperature range	
Operating	-30ºC to +60ºC
Storage	-40ºC to +70ºC

Mechanical specifications	
Environmental class	IP67

Technical Assistance

If you have a problem and cannot find the information you need in the product documentation, please contact Trackunit A/S

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DK-9490 Pandrup
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E-mail: support@trackunit.com

Web: www.trackunit.com

NOTE: When contacting technical support, please have the unit serial number ready.