

*G9000*

**Wireless alarm unit for T-Print G0841**

**Instruction for use**

## **Instruction for use of wireless alarm unit**

Device works as a remote display of temperature recorder G0841 (further only „recorder“). Recorder is primarily designed for installation on semi-trailer of a truck. Thanks to wireless connection alarm unit enables comfortable monitoring of recorder state in a cabin of semi-trailer truck.

After activation of sending function in recorder following values are transmitted to the unit: temperature values measured by both temperature channels and information on both binary channels states, including alarms on all four channels. Data are displayed on a dual line LCD display, alarms are indicated by blinking of red LED and by audio signal. Above information is transmitted in 5 minutes interval. Drop-outs of radio connection are also indicated visually and acoustically. All settings (alarm limits, delay of alarms, temperature units etc.) are done directly in the recorder. Alarm unit displays and indicates identical data as recorder itself at the moment of data sending. Fast changes on binary inputs of temperature recorder (channels 3 and 4) must not be displayed due to 5 minutes interval of transmission.

If several recorders work near each other alarm units will not be disturbed. But unit battery life can be shortened due to processing of more radio messages.

Unit is powered by a long life Lithium battery. Minimum allowed battery voltage is measured and its drop below limit is indicated on the display by symbol BAT.

### **Use of the device**

Device is delivered with included battery in switched OFF state. Switch ON and OFF alarm unit by pressing switch on its upper side. Because more than one pair of recorder - alarm unit can work near each other, it is necessary to pair alarm unit with proper recorder before first operation. This process enables to find the proper address (i.e. proper alarm unit) to send data to.

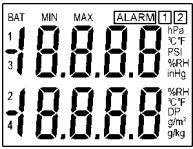
### ***Procedure of pairing wireless alarm unit with recorder***

- Alarm unit is switched off.
- In temperature recorder G0841 menu select item "Alarm Unit", press "New Alarm Unit" key and then "NEW" key. Confirm „Really New Unit?“ key by OK. Record will be for 1 minute interrupted and display shows „WaitingForSignal“. Recorder is now in the reception mode and waits for data from alarm unit.
- Right now switch on alarm unit: up to 5 seconds information on serial number of alarm unit sending pairing signal would appear on the temperature recorder LCD. Check if serial number on the alarm unit label is correct and if so, confirm new setting STORE key and leave the pairing mode by END key. If information on serial number of alarm unit does not appear up to about 10 s, repeat switching OFF and switching ON of alarm unit. If pairing mode is not ended correctly, it is ended up after 60 s automatically.
- Recorder would up to 10 s send data to selected alarm unit address: check the display of alarm unit, if hyphens are replaced by measured values and if last four digits of serial number of the correct recorder appear (indicated by „From“, see page 4).
- Recorder now sends data every 5 min to the selected alarm unit address. Henceforth it is possible to switch OFF and switch ON again the unit without any effect to setting of pairing. Pairing information is stored only in the recorder.

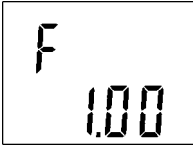
### **Displayed data**

If pairing of alarm unit with proper recorder is finished it is possible only to switch ON the unit. Up to 5 minutes at the latest first data from temperature recorder is received and displayed.

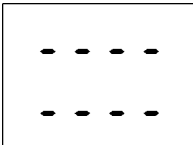
Reading is refreshed every 5 minutes. If connection is lost warning audio signal sounds and hyphens on the display appear. Red LED blinks in such case – indicates error state.



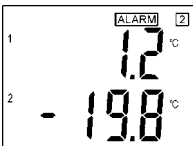
After switching ON the unit all symbols appear on the LCD for 2 s to check LCD.



LCD then displays for 2 s information on firmware version of the unit. Example shows version FW 1.00



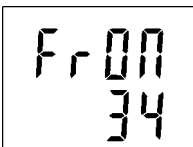
Consequently pairing signal is sent and unit switches to the reception mode. Waiting for data from temperature recorder is indicated by hyphens on both LCD lines and by blinking of red LED (one short blink in 10 s). If no data is received up to 11 minutes from switching ON the unit, short audio signal indicates no connection was found.



If unit receives data from temperature recorder, actual temperature readings from temperature channels 1 and 2 are cyclically displayed. If active alarm on any channel appears, symbol alarm in upper display part is shown (temperature channels 1 and 2 are marked with proper digit). After 4 seconds rest channels are displayed.



Unit now displays actual state at binary inputs - channel 3 (upper line) and channel 4 (lower line). Symbol On indicates closed contact, symbol OFF indicates opened or non-connected contact. After 4 seconds new information is displayed.



In the end for 2 seconds information on the source of the data is displayed. Information is indicated by symbol From on the upper LCD line. Lower line displays last four digits of the serial number of temperature recorder sending data (without zeroes at left points). Example shows data from temperature recorder with serial number xx970034 (two digits 97 are present for all Gxxxx recorders).

The whole cycle repeats periodically, i.e. actual measured temperature at inputs of channel 1 and 2 appears.

Do switch off the unit when it is not in use – you save battery life!

When low battery is detected by the unit, it is indicated by symbol BAT on the display. Battery condition is measured in 5minutes interval. If unit with older battery is operated at ambient temperature below -5°C, low battery indication can appear and after unit is heated to higher temperature indication can disappear again. This effect is normal, because battery capacity and voltage drop at frost.

### Indication of alarms

Active alarms of all four channels of the recorder are indicated by alarm unit by short audio signal, which sounds once with every change of alarm state. During whole alarm duration red LED blinks (shortly once in every 10 seconds) and LCD permanently displays ALARM. In case of temperature ALARM indication on the display is accompanied also by inversely shown digit 1 or 2 - corresponding to proper channel.

## Replacement of battery

Low battery is indicated on the display by reading "BAT". Replace the battery for new one. If logger is operated often in temperature below  $-5^{\circ}\text{C}$  or over  $+35^{\circ}\text{C}$  and PC program indicates remaining battery capacity below 25% it is also recommended to replace the battery. Applied is Lithium battery 3.6 V, size AA. Battery is located under logger lid.

### *Replacement procedure:*

- switch off alarm unit by pressing the switch
- unscrew four corner screws and remove the lid
- remove old battery by pulling the glued tape
- insert new battery **respecting the correct polarity** (see symbols + and – near battery holder)..  
**Attention, inserted battery with incorrect polarity causes logger damage!**
- put the lid back again and screw four screws. Be careful of the correct position of indication LED in the device lid
- switch on the unit and check its function with recorder

### **Liquidate discharged battery ecologically !**

### **Technical parameters of the device:**

Range of display:  $-999.9$  to  $+999.9$   $^{\circ}\text{C}/^{\circ}\text{F}$

Resolution:  $0.1$   $^{\circ}\text{C}/^{\circ}\text{F}$

Displayed temperature unit:  $^{\circ}\text{C}$  or  $^{\circ}\text{F}$

Display refresh interval: always after reception of radio message, normally 5 minutes

Signal range: minimum 30 meters in build-up area, up to 100 meters in open space

Radio frequency: 868 MHz (non-licensed band)

Power: Lithium battery 3.6 V, AA size

Battery life: 2 years of continuous operation

Notice: The above battery lives are valid for logger operation in temperature from  $-5$  to  $+35^{\circ}\text{C}$ . If often operated outside of the above temperature range battery life can be reduced to 75%. If other radio devices are operated near the unit at the same frequency, battery life can be reduced.

Electromagnetic compatibility: complies EN 61326-1

Protection: IP20

Operating conditions:

Operating temperature:  $-30$  to  $+70$   $^{\circ}\text{C}$

Operating humidity: 5 to 60 %RH

Specification of outer characteristics accordingly to Czech National Standard 33-2000-3:

normal environment accordingly to appendix NM: AE1, AN1, AR1, BE1

Operational position: negligible

Installation: by self adhesive Dual Lock, applied to clean, flat surface or by two screws of maximum diameter 4 mm

Limit conditions: temperature  $-40$  to  $+70$   $^{\circ}\text{C}$ , humidity 5 to 60 %RH

Storing conditions: temperature  $-40$  to  $+85$   $^{\circ}\text{C}$ , humidity 5 to 60 %RH

Dimensions: 89 x 73 x 39.5 mm

Weight including battery: approximately 150 g

Material of the case: ABS

### **Technical support and service of the instrument**

Technical support and service is ensured by the distributor of this instrument.