

Electronic heat cost allocator with integrated radio transmitter

## E-ITN 40

### DESCRIPTION

E-ITN 40 is modern electronic device intended for ratio-based allocation of heat cost in buildings with central heating system. The heat cost allocator E-ITN 40 uses two sensor measuring principle. One sensor measures the temperature of the radiator and the second sensor measures the temperature of the room. Using this principle, allocator ensures exact measurement of consumption value only when the radiator really emits heat. It is possible to change type of transmission to: Beacon, Metra, Wireless M-Bus, Wireless M-Bus OMS.

### DATA READING

Due to integrated radio transmitter, presence of flat occupant is not required when data are read. No strangers also enter the flat.

Data reading can be made by billing company employee using mobile receiving unit. Data can be also read by central reading system CRS 40 permanently installed in the building if required.

If water meters with radio modules E-RM 30 are also used, data are read simultaneously.

### PROTECTION AGAINST CHEATING

Heat cost allocator E-ITN 40 is equipped with electronic seal. This seal is able to recognize unauthorized manipulation and record its exact date. Data about unauthorized manipulation is transmit in radio signal

When thermally influenced, allocator is switched to single-sensor mode. Allocator is switched back to standard two-sensor mode when thermal influence is finished.

### APPLICATION

E-ITN 40 is intended to be installed in one-tube horizontal/vertical and two-tube heating sytes with the lowest mean design heating medium temperature  $\geq 35^{\circ}\text{C}$  and highest mean design heating medium temperature  $\leq 105^{\circ}\text{C}$ .



## TECHNICAL DATA

<b>Application</b>	$t_{\max} \leq 105^{\circ}\text{C}$ (max. temperature of the heating medium)
	$t_{\min} \geq 35^{\circ}\text{C}$ (min. temperature of the heating medium)
<b>Condition fro registration</b>	Sensor temperature of the radiator $\geq 30^{\circ}\text{C}$ temperature difference between the mean headitn medium temperature and the reference air temperature $\leq 5\text{K}$ (according to standard EN 834:2013), different conditions for registration in the summer period
<b>Power supply</b>	Lithium battery 3 V
<b>Calculated battery lifetime</b>	10 years + 2 years reserve
<b>Display</b>	5 digits LCD + 2 special symbols
<b>Data backup</b>	Daily backup of measured valies including real time
<b>Function control</b>	Automatic, can be activated and controlled by the user
<b>Electronic seal</b>	Yes
<b>NFC interface</b>	Yes
<b>Infrared interface</b>	No
<b>IP protection</b>	IP 42
<b>Conformity</b>	ČSN EN 834
<b>Data coding</b>	Yes
<b>Transmission range</b>	Up to 300m (without entering the building, with additional panel antenna). <i>Rem.: It is necessary to consider that all metal parts of construction (switch rooms, armouring, lifts, etc.) can negatively effect the range of radio signal.</i>

## CALENDAR FUNCTIONS

### Consumption

- Total consumption (from beginning of operation or reset)
- Consumption for billing period (current yearly + 6 previous)
- Consumption for previous monthly billing period (current + 24 previous)
- Date of beginning if measuring total consumption (DD:MM:YY)
- Date of beginning of billing period (DD:MM)
- Date of beginning of heating season (DD:MM)
- Date of beginning of summer season (DD:MM)

### Temperature of radiator

- Max. Temperature of sensor of radiator for past billing period (current yearly + past yearly)
- Max. Temperature of sensor of radiator for past monthly billing period (current monthly +12 previous)
- Max temperature of sensor of radiator for past yearly billing period (current yearly + past yearly)
- Min. Temperature of sensor of radiator for past yearly billing period (current yearly + past yearly)
- Min. Temperature of sensor of radiator for monthly billing period (current monthly + 12 previous)
- Avarage temperature of sensor of radiator for past monthly billing period (current monthly + 12 previous)
- Date of record of the highest temperature of sensor of radiator for past yearly billing period
- Date of record of the lowest temperature of sensor of radiator fir past yearly billing period
- Avarage temperature of sensor of radiator for previous day
- Current temperature of sensor of radiator

### Environment temperatures

- Average temperature of environment for yearly billing period (current yearly + past early) (just 1. 11. To 31. 3)
- Average temperature of environment for past monthly billing period (current monthly + 12 previous)
- Current average temperature of environment  $T_i(ss)$  for yearly billing period (current yearly + past yearly) (only 1. 10 to 30. 4.)
- Average temperature of environment  $T_i(ss)$  for monthly billing period (current monthly + 12 previous)
- Number of dates with change of temperature  $T_i(ss)$  (current monthly + 12 previous). Day of activation is registered when allocator during day at least 1x updates value  $T_i(ss)$
- Average temperature of environment  $T_i(ss)$  for previous day
- Current temperature of environment

### Other features

- Number of days of allocator operation for monthly billing period (current monthly + 12 previous). Day of operation is registered if allocator during days at least 1x resisters increase of consumption.
- State of electronic seal of allocator and external seal
- Date of broken electronic seal (DD:MM)
- Total consumption at the moment of broken electronic seal
- Error state (E0000)
- Date of error state
- Total consumption at the moment of error state
- Number of changing to single sensor mode (current yearly + 1 previous)
- Number of changing to single sensor mode (current monthly + 1 previous)
- Option to turn off measuring in summer season
- Adjustable start of temperature of radiator in summer season that allocator starts to measure
- Option to turn off one way transmission in summer period
- Power of radiator (default 1000)
- Kc coefficient (default Q)

## CONTACTS

### APATOR METRA s.r.o.

Havlíčková 919/24

787 01 Šumperk

Czech Republic

Tel.: +420 583 718 261

E-mail: prodej@metra-su.cz

Web: www.metra-su.cz

Your distributor:

The manufacturer reserves the right to change design, technical specification and accessories without prior notice.

K2024/04a