

REPORTING

online GPS-GPRS system RASCO-MOBILISIS web application

Reports examples (on users native language):

- Report from EPOS 10 control unit shown on PC display using Rasco EPOS Utilities software;

Report by section

| # | wet material | total amount (t) | total duration | total distance (km) |
|---|-------------------|------------------|----------------|---------------------|
| 1 | CaCl ₂ | 45 | 6min | 4.4 |

Amount of pre-wetting material used

| # | dry material | total amount (kg) | total duration | total distance (km) |
|---|--------------|-------------------|----------------|---------------------|
| 1 | COARSE SALT | 943 | 27min | 19.1 |

Amount of dry spreading material used

| # | road | amount (kg): dry material | amount (t): wet material | traveled distance (km): driving | traveled distance (km): spreading | traveled distance (km): plowing | duration: driving | duration: spreading | duration: plowing |
|---|------|---------------------------|--------------------------|---------------------------------|-----------------------------------|---------------------------------|-------------------|---------------------|-------------------|
| 1 | 0020 | 406 | 34 | 12.0 | 7.0 | 2.0 | 36min | 14min | 7min |

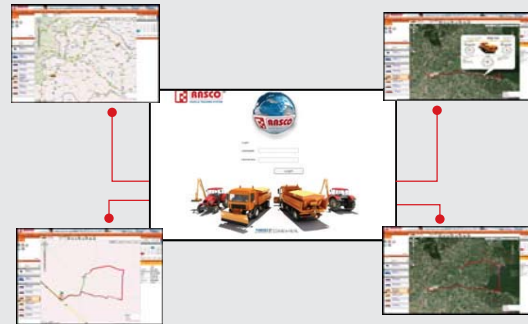
- large number of different reports directly on the LCD screen of the EPOS 10;
- reports on the amount of all types of materials spreaded per section, day, month, year or throughout the lifetime of the device
- reports on the operating time spent on driving, spreading and ploughing per section, day, month, year or throughout the lifetime of the device
- if the device is handled by two or more operators (drivers) it is possible to get all of the above information separately for each operator(driver)
- reports can be read directly on the LCD screen of the control unit or transferred to a memory card (USB memory stick) and archived as solid and unchangeable record on the PC in the user database

Report by driver

| # | user | amount (kg): dry material | amount (t): wet material | traveled distance (km): driving | traveled distance (km): spreading | traveled distance (km): plowing | duration: driving | duration: spreading | duration: plowing |
|---|---------|---------------------------|--------------------------|---------------------------------|-----------------------------------|---------------------------------|-------------------|---------------------|-------------------|
| 1 | (rasco) | 2 | 0 | 2.0 | 2.0 | 0.0 | 17min | 1min | - |

A report on the operating time with EPOS 10

| value | duration | traveled distance (km) | spent material (kg.) |
|-----------------------|----------|------------------------|----------------------|
| Drive | 1h 38min | 32.0 | - |
| Spreading | 27min | 19.0 | - |
| Spreading - chamber 1 | 27min | 19.0 | 943 |
| Spreading - chamber 2 | - | 0.0 | 0 |
| Spreading - wet | 6min | 4.0 | 44 |
| Plow work | 10min | 5.0 | - |
| Main plow work | 10min | 5.0 | - |
| Side plow work | - | 0.0 | - |



EPOS 10



universal control unit

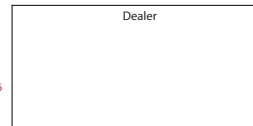
EPOS 10 is equipped with RS 232 serial interface used for GPS - GPRS module connection with purpose of monitoring and data transfer from control unit to the base.

Software solution is RASCO - MOBILISIS web application that in user's native language allows:

- online monitoring of fleet vehicles in winter service
- online insight into the current position of each vehicle in fleet
- online insight into the activities of each vehicle in the winter service fleet (current activities and used parameters)
- archiving of all data on the activities of each vehicle in fleet (route - map, information on activities at every point of section)
- all data is archived and unchangeable and can be used as evidence in the case of a dispute caused by activities on the road
- large number of reports that are archived can be linked to a section, vehicle, driver, spreading material, time spent driving, time spent working with the spreader, time spent working with the snowplough, etc.



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- savings
- ecology
- control
- communication



universal control unit

- Written and spoken information in customer's native language;
- Ergonomic, compact, sturdy case with SMD electronics;
- Control panel designed in accordance with EMC 2004/108/CEE;
- CAN-BUS open communication system according to CEN TC 337/WG3 EN15430-1;
- 4" LCD graphic screen with textual, sound and spoken warning messages from parameter change and from sensors on spreader;
- Contactless user (driver) identification - registration ability for more user for single spreader;
- Screen backlight sensor - adjusts screen brightness according to cab illumination;
- Programmable for work with more than 10 types of spreading material;
- Spreading width changeable from 1.5 to 9 meters in 0.5 meter steps, for left and right asymmetry;
- Changeable pre-wetting material quantity - 10% do 40% easy adjustable during driving, without entering the panel setup;
- Connectable signal from snow plough;
- Auto calibration capability;
- Adjustment of spreading quantity (dry and wet material) and width by highly precise closed regulation circuits;
- Large memory stores plowing and spreading data for minimum last 200 hours without erasing;
- Memory card for download, storage and data transfer, but also for control unit programming is standard, USB memory stick;
- Serial, RS232 interface, available for spreading data transfer from control unit to the base - additional GSM/GPRS mobile unit needed;
- Software compatible and programmable for work with thermo camera;
- Automatically generates various reports;
- WLR - Whole Life Report;
- Etc...



VERSATILITY

THERMAL CAMERA COMPATIBILITY

Spoken info in customer's native language

Single chamber function (auger conveyor spreader, belt conveyor spreader or chain conveyor spreader)

Dual chamber function;

Changeable spreading pattern - symmetrical spreading pattern;

Left spreading track asymmetry;

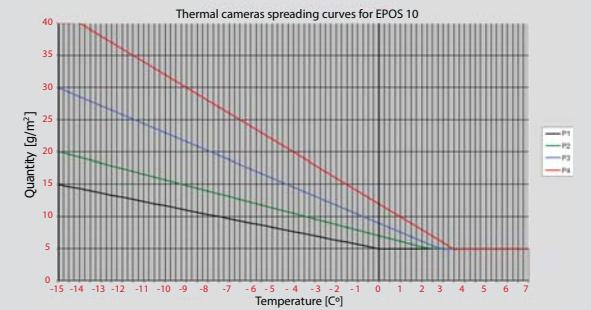
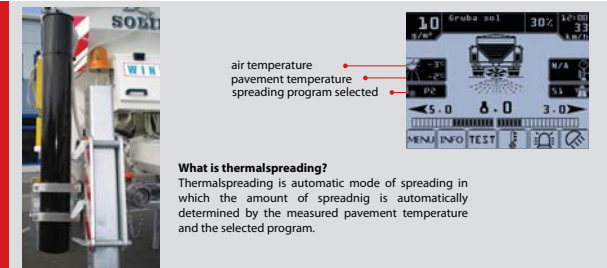
Right spreading track asymmetry;

Working with the thermal camera;

USB PORT

RS 232 PORT

Location of roads in the area, and facilities that are on the road (bridges etc.) cause the temperature difference of the pavement. These differences can be very significant. Without the help of thermal camera operator can not observe these differences and respond to them. In such cases the whole section is covered with more salt than is necessary. This is one of the reasons why thousands of tons of salt are thrown unnecessarily into the environment. The function of thermal camera is to show actual quantity of spreading material needed and not the quantity that were estimated.



The most important advantages of thermalspreading are:

- up to 30% material savings in spreading
- significantly reduces environmental pollution
- optimal spreading in accordance with actual needs greatly increases the safety of traffic on the roads