Marcin Wach

New weighing terminals in dosing systems

In the reach offer of weighing devices RADWAG boasts dosing systems with recipes. They are built on the bases of PUE C41H or PUE 5 terminals.

PUE C41H terminals has been designed for intended use in automatic weighing systems. It has modular construction which the wide flexibility in installing particular modules to reach a specific functionality. Basic optional electronic modules that are accessible: Ethernet module, analogue outputs, optoizolated inputs, reed relays outputs, relay outputs and additional A/D converter for second weighing platform.

Fig.1: A system diagram – dosing with recipes on the basis of the PUE C41H terminal

Supervising systems built on the basis of PUE C41 terminals is simplified by free of charge software that accompanies each terminal. Users can change settings, parameters, supervise databases, predefine printouts and reports, read weighings and save them in text files.

PUE5 weighing terminals are multifunction weighing devices. They are equipped with 12.1" TFT displays with resolution 800 by 600 pixels and touch screen. Advantages of having two devices, i.e. a personal computer and a scale that can be verified, in one housing are undisputable. Every terminal has installed the Windows XP Embedded operating system. Such approach simplifies tailoring the device to software and hardware needs of various customers.

PUE 5 terminals allow to build two types of dosing systems. The first one is based on the internal set of inputs/outputs that are controlled by terminal software. Another solution is the system based on intelligent weighing module connected externally. Each module is able to accept a command of dosing one ingredient, control this process, and return an internal report from completion of the process. The terminal operates as the master device to all such modules and controls the whole process.

Dosing with recipes with terminal PUE 5 does not require any additional computer. The terminal is operated using the touch panel or by optional keyboard.
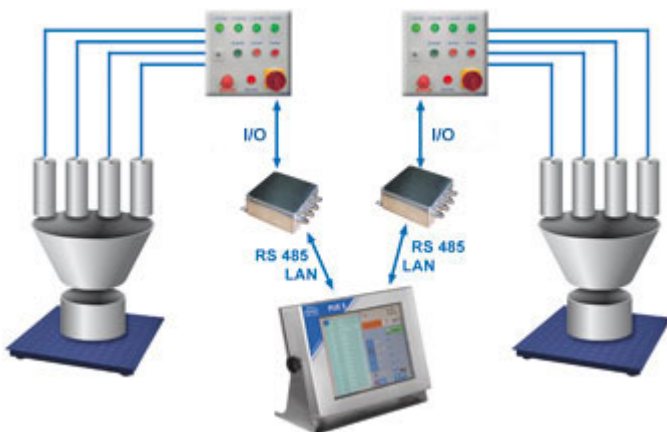

Fig. 2: Dosing with recipes based on PUE 5
- system example

Dosing with recipes
Functional possibilities of dosing systems:
- Two-threshold dosing (bulk, precise).
- Reconfiguration terminal outputs to the way the controlled element (valve, inverter, itp.).
- Possibility of setting a time delay when switching between thresholds of dosing.
- Possibility of setting a time delay when the process is completed.
- Possibility of holding or terminating a dosing process at any time.
- Possibility of using external buttons and/or control signals *TARE, ZERO, PRINT, START, STOP, HOLD, CHUTE PERMISSION, START PERMISSION* ascribed to any accessible input in parameters.
- Outputs: *MIN, OK., MAX, STABLE, THRESHOLD 1, THRESHOLD 2, CHUTE* ascribed to any accessible input in parameters.
- Printing reports from weighings.
- Databases.
- Operation modes: manual, automatic, „negative" dosing.

Hardware for dosing with recipes.
Terminals mostly cooperate with control desks equipped with relays, control buttons and signalling elements. Additionally, cooperation with following devices is possible: printer, barcode scanner, transponder card reader, additional display.

Applications
RADWAG designs dosing systems in the width range of maximum capacities from kilograms to tones. We offer simple one-ingredient dosing systems that can measure mass of any substance and multi-ingredient systems (dosing with recipes). A dosing process can involve one- or two- thresholds control. The second is more precise. For cooperation with external automatic systems control lines (inputs/outputs) are accessible: START PERMISSION, HOLD, CHUTE PERMISSION, PROCESS IN PROGRESS. Terminals can control also chute.

Fig 3. Dosing of pharmaceutical substances using PUE C41H

Fig. 4. Paint dosing using PUE C41H

Typical example applications:

- Grain silo
- Concrete mixing plant
- Paint and varnish mixing
- Making feeds and fertilizers
- Dosing with recipes in fish and meat industry
- Mixtures in pharmaceutical industry

Most solutions are designed according to specific customer demands. Multifunctionality and flexibility of settings in PUE C41H and PUE 5 terminals simplifies tailoring standard devices to specificity of different needs. It shortens the process of designing and implementing of news systems.

RADWAG Wagi Elektroniczne
26-600 Radom, 28 Bracka street, Tel. (048 48) 384 88 00, Fax (0 48 48) 385 00 10,
Sales Department (048 48) 366 80 06; e-mail: radom@radwag.pl, www.radwag.com