EASY-TO-USE INDICATOR, TRANSMITTER
FOR WEIGHING AND AUTOMATION

INDUSTRY LOGISTICS

BUILDING BOATYARD

WOOD INDUSTRY FUELS

PROCESS CONTROL

The weight indicators of the PROCESS CONTROL range are the most economical and practical solution to read the weight of the load cells and transmit it to external devices (PCs, PLCs, microcontrollers etc), via RS232, RS485 serial port, relay output or programmable analog output.
Thanks to the plug and play external switching, the user can communicate in Ethernet, WIFI, PROFIBUS and RADIO FREQUENCY.
Each instrument is designed to be installed on a DIN rail, or panels with standard fixings, easily adaptable with existing installations.
The multifunction software will allow you to convert the weight into other units of measurement (Newton, litres, pieces...), measure the peak weight, perform consecutive accumulation, and transmit the total.

The design of the hardware and the operating software is carried out in Italy by a technical staff who provide the knowledge for the production of OEM systems, with customised protocols and features. All indicators are approved for legal for trade use, according to EN45501, OIML R76.

OIML

OIML R76 (EN45501)
OIML R61 - MID
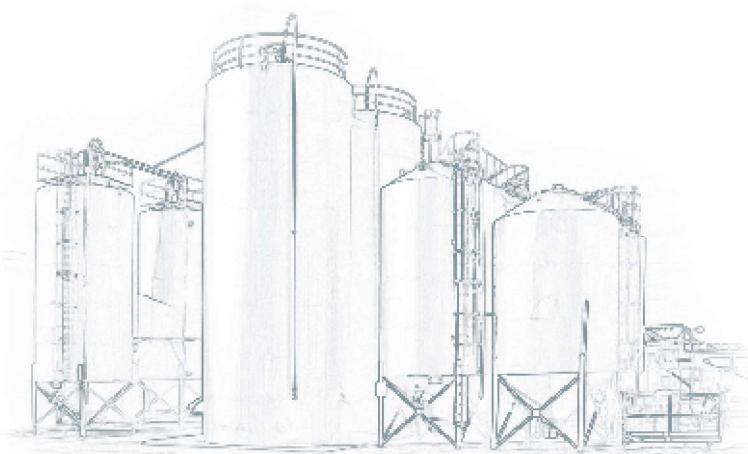
THE RANGE

DGT1S

Weight transmitter in a slim case, 1 weighing channel and "quick connect" system

DGT1

Weight transmitter in a compact case, 1 weighing channel

DGT4

Weight transmitter with 4 weighing channels

DGTQ

Weight transmitter for panel mounting, with 4 weighing channels

CLEAR EASY-TO-READ VIEW

The LED display allows for quick and easy check of the weight status of any load applied to the load cells. It also greatly simplifies the implementation of any changes to the configuration.

STANDARD DIN SIZES

The DGTQ and DGTP series indicators have standard DIN sizes.

SIMPLIFIED WATERPROOF KEYBOARD

The simplified keyboard ensures simplicity and immediacy of use. The DGTPK series provides a numeric/functional keypad, ideal for handheld applications.

DiniTools

QUICKLY CONFIGURATION FROM PC WITH DINITOOLS

The Dinitools software for PC, supplied as standard, helps to quickly program and calibrate the indicator and create a database of the installations. These functions help to quickly replicate the installed systems, saving time when installing new equipment.

DGTP

Weight transmitter for panel mounting with 4 weighing channels and 20mm display

DGT20

Weight indicator for table/panel/wall mounting, with 4 weighing channels

DGTPK

Weight indicator for table/panel/wall mounting, with 4 weighing channels and extended keyboard

DGT100

Weight indicator / Weight repeater with 100mm maxi display.

MAIN TECHNICAL FEATURES

For **DIN BAR** installation

Visit www.diniargeo.com web site for more information.

● As standard
○ As option (>> page 26)
− Not available for this model

	DGT1S	DGT1SAN	DGT1	DGT1AN	DGT1IO	DGT4	DGT4AN	DGT4PB
COMMUNICATION INTERFACES								
Profibus DP (>> page 26)	○	○	○	○	○	○	○	●
Ethernet TCP/IP (>> page 26)	○	○	○	○	○	○	○	−
Modbus TCP / DeviceNET / CanOpen / EtherCat / ProfiNet	○	○	○	○	○	○	○	−
Modbus RTU protocol	●	●	●	●	●	●	●	●
RS485 serial port	1	1	1	1	1	1	1	−
RS232 serial port	1	1	1	1	1	1	1	1
USB connection for PC programming with Dinitools software	○	○	○	○	○	○	○	○
Alibi memory	○	○	○	○	○	○	○	○
Bluetooth	○	○	○	○	○	○	○	○
868MHz Radio frequency module	○	○	○	○	○	○	○	○
IN/OUT								
Electronic outputs	2	2	−	−	2	2	2	2
Digital inputs	2	2	−	−	2	2	2	2
Analog output (0...5 Vdc, 0...10 Vdc, 0...20 mA, 4...20 mA)	−	●	−	●	−	−	●	−
HARDWARE								
Dimensions (mm) (lxhxw - Large x hight x width)	22,5 x 111 x 120		53 x 90 x 58			106 x 90 x 58		
Red LED display	8 mm		8 mm			13 mm		
"Quick Connect" system (>> pag. 28)	●		−			−		
Keyboard	Waterproof mechanic							
case	ABS							
Power supply	12/24 Vdc, 5 W							
Operating Temperature Range: Internal use / CE-M / Humidity	-20...+60°C / -10...+40°C / 85%							
IP protection	−							
WEIGHING								
Connectable load cells	up to 16 of 350Ω							
Conversions / Resolution / F.S. max of Display Screen	3200 Hz / 24 bit / ± 999999							
Converter / Number of scale inputs	24 bit / 4 channels							
Theoretical calibration (mV/V)	●							
Multifunctional firmware	●							
OIML features	3000e, 2x3000e, 6000e, 2x6000e, 10000e							
OIML certifications	OIML R76 - R61 (MID)							

(1)   *with option (>> page 26)*

	For **PANEL** mounting						For **BENCH/PANEL/WALL** mounting						For a **WALL** mounting		
	DGTQ	DGTQAN	DGTQPB	DGTP	DGTPAN	DGTPPB	DGT20	DGT20AN	DGT20PB	DGTPK	DGTPKAN	DGTPKPB	DGT100	DGT100AN	DGT100PB
	o	o	●	o	o	●	o	o	●	o	o	●	o	o	●
	o	o	-	o	o	-	o	o	-	o	o	-	o	o	-
	o	o	o	o	o	-	o	o	-	o	o	-	o	o	-
	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	1	1	-	1	1	-	1	1	-	1	1	-	1	1	-
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	2 + 6 [1]	2 + 6 [1]	2 + 6 [1]	6	6	6	2	2	2	6	6	6	2	2	2
	2	2	2	4	4	4	2	2	2	4	4	4	2	2	2
	-	●	-	-	●	-	-	●	-	-	●	-	-	●	-
	96 x 96 x 80			144 x 72 x 129			214 x 157 x 150			214 x 196 x 150			433 x 205 x 202		
	13 mm			20 mm			20 mm			20 mm			100 mm		
	-			-			-			-			-		
	Waterproof mechanic						Waterproof mechanic						Waterproof mechanic		
	ABS						Aluminium / Painted steel						Stainless Steel		
	12/24 Vdc, 5 W						12/24 Vdc, 5 W						12/24 Vdc, 5 W		
	-20...+60°C / -10...+40°C / 85%						-20...+60°C / -10...+40°C / 85%						-20...+60°C / -10...+40°C / 85%		
	IP40						IP40						IP68		
	up to 16 of 350Ω						up to 16 of 350Ω						up to 16 of 350Ω		
	3200 Hz / 24 bit / ± 999999						3200 Hz /24 bit / ± 999999						3200 Hz / 24 bit / ± 999999		
	24 bit / 4 channels						24 bit / 4 channels						24 bit / 4 channels		
	●						●						●		
	●						●						●		
	3000e, 2x3000e, 6000e, 2x6000e, 10000e						3000e, 2x3000e, 6000e, 2x6000e, 10000e						3000e, 2x3000e, 6000e, 2x6000e, 10000e		
	OIML R76 - R61 (MID)						OIML R76 - R61 (MID)						OIML R76 - R61 (MID)		

DESIGNED FOR THE INDUSTRIAL AUTOMATION AND THE PROCESS

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

DGT100:
weight repeater
(page 26)

TCP IP / UDP

SETHDIN: RS232 >> RS485 or ETHERNET converter
(page 26)

PROFI232: RS232 >> PROFIBUS converter
(page 26)

RS232

RS485

PLC

Modbus

V/A

ANALOGUE OUTPUT

0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

| ZEROING TARE | IN 1 | OUT 1 | PROGRAMMABLE |
| DATA TRANSMISSION | IN 2 | OUT 2 | THRESHOLDS / SETPOINT |
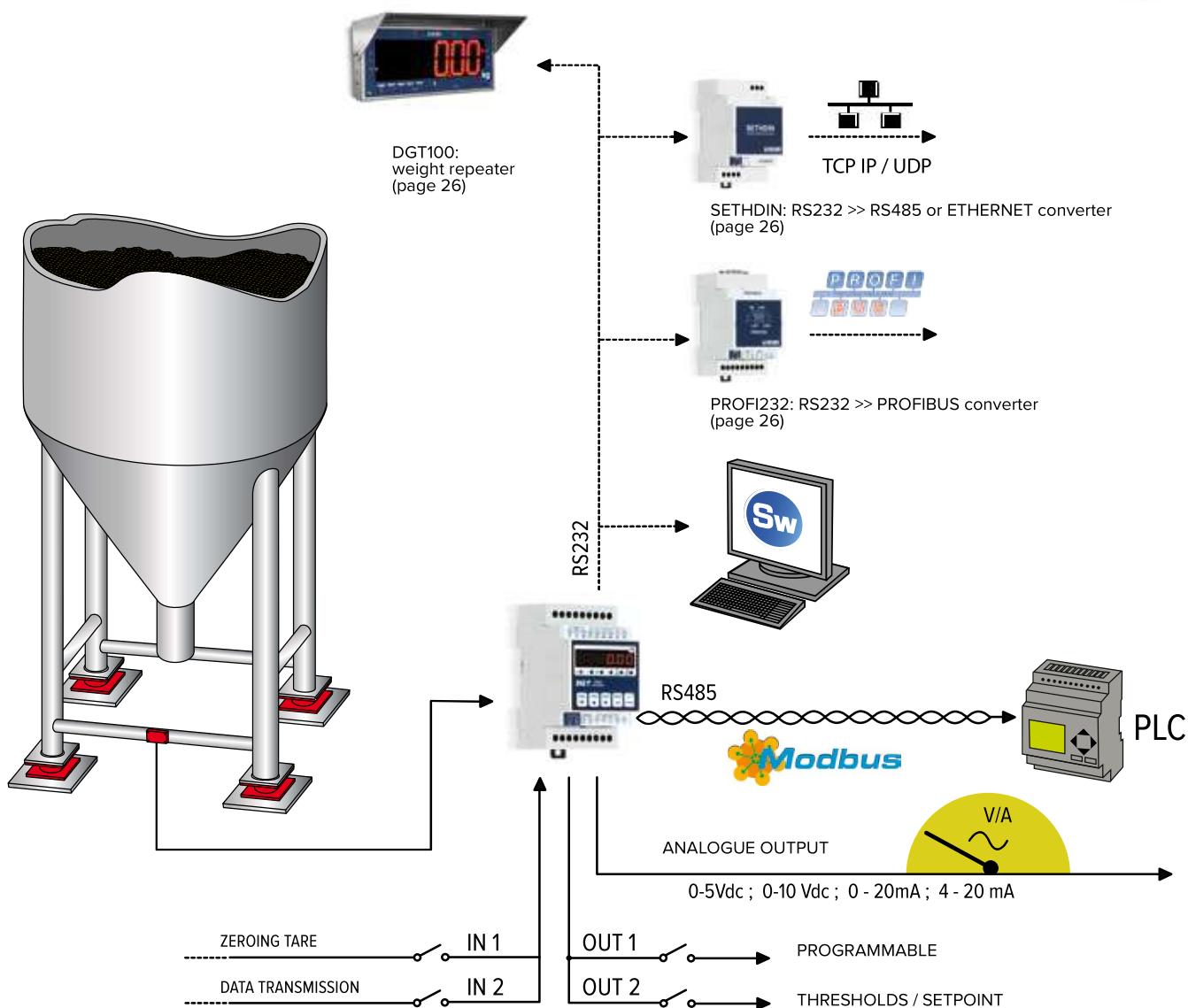
Example of system with DGT 1

FUNCTIONS
OF THE STANDARD PROGRAM

- Digital or theoretical calibration and configuration from indicator keyboard or PC via Dinitools, with the functionality of storing the setup of the instrument to backup, simplify the technical assistance, or replicate the same configuration on other instruments (OEM).
- Programmable signal linearization of up to 8 points.

- Quick recalibration of the zero point.
- Control of the overload and underload status of the load cells.
- Keyboard locking functions and limited menu access through programmable password.
- Fast and accurate weight reading with adjustable speed of up to 3200Hz.
- Modbus RTU protocol, as standard fitted

- Dini Argeo protocol for creating control programs on a PC that can read the weight, read the digital inputs, drive the relay outputs.
- Event log
- Possibility to create customized software according to the needs (OEM).
- Quick interface with ETHERNET, PROFIBUS, WIFI, USB module, IN / OUT expansion.

INDICATORS
FOR FILLING, DOSAGE AND PROCESS

BATCHING AND FILLING

The indicators for dosage of the BATCHING line offer state of the art technology for weighing and dosing, at a very competitive price. All the indicators are fully designed and manufactured in Italy and offer great performance and versatility.
The multifunction dosage software is fully configurable and adaptable to any application, thanks to a rich and full programming menu and to the internal development area for the implementation of fully customized programs.

The range of Touch Screen indicators offers the possibility to create customized display interfaces, in order to simplify the user operations and reducing mistakes.

All instruments are fitted with programmable databases and different accumulator totals (daily, weekly, mounthly, annual, per formula, per ingredient).

OIML

OIML R76 (EN45501)
OIML R51 - MID
OIML R61 - MID
OIML R134
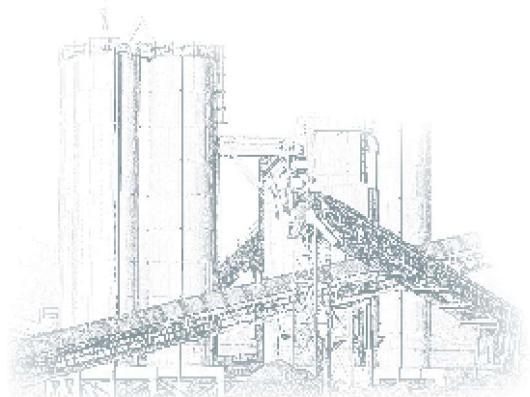
Three different dosage modes are available on the same product

SINGLE COMPONENT DOSAGE FOR FILLING

SINGLE COMPONENT DOSAGE FOR DISCHARGING

MULTI COMPONENT DOSAGE

THE RANGE

DGTQF
Indicator for dosage systems, for panel mounting

DGTP
Indicator for dosage systems, for panel mounting, with 20mm display

DGTPK
Indicator for dosage systems with extended keyboard

CUSTOMIZABLE DISPLAY SCREEN

The backlit graphic LCD display allows a clear and immediate view of all the main data. The displayed data can also be easily customized to show descriptions, texts, totals, dosage quantity, etc.

KEYBOARD FUNCTIONS FREELY PROGRAMMABLE

It is possible to customize the functions of each keys, by creating specific configurations and automatic sequences, according to the needs. This feature is essential for making simple and immediate, the functions which the operator must perform daily. It is also possible to inhibit the function of each single key, by creating the perfect combination.

CUSTOMIZABLE PRINTOUTS

The print layout is fully customizable according to the specifications.

IP65 / IP68 PROTECTION

All the indicators of the batching line offer a high protection degree against dust and water, and are designed for use in harsh industrial environments.

USB MEMORY

The USB memory stick allows you to download all of the production data of the completed dosages, for further processing from PC.

BLUETOOTH OUTPUT (optional)

This option can be used for quickly programming the formulas inside the instrument, using a smart phone, a tablet or a portable PC.

DiniTools

QUICKLY CONFIGURATION FROM PC WITH DINITOOLS

The Dinitools software for PC, supplied as standard, allows to quickly program and calibrate the indicator and create a database of the installations. These functions allow to quickly replicate the installed systems, saving time.

DBManager

SOFTWARE FOR THE QUICK CONFIGURATION OF DATABASES

The PC software DBMANAGER allows the quick programming of the databases by using Bluetooth, Ethernet or WiFi interface.

CPWE
Microcontroller for advanced dosage plants

3590ETB
Touch screen microcontroller for advanced batching plants

3590ETT
Touch screen weight indicator for advanced batching plants in a stainless steel case, fitted with bracket.

3590EGT
Touch screen weight indicator for advanced batching plants with mechanical keyboard and integrated traffic light.

MAIN TECHNICAL FEATURES

for **DOSAGE/FILLING, BENCH/PANEL PUNTING**

Visit **www.diniargeo.com** web site for more information.

● As standard
○ As option (>> page 26)
– Not available for this model

		DGTQF	DGTQFAN	DGTPF	DGTPFAN	DGTPKF	DGTPKFAN
PROGRAMMABILITY	Dosage functionalities	-	-	-	-	-	-
	Firmware development area, for customized programs	-	-	-	-	-	-
	Fully customizable display	-	-	-	-	-	-
	Databases	-	-	-	-	-	-
	Standard database for ingredients/formulas	●	●	●	●	●	●
	Programmable communication strings	-	-	-	-	-	-
	Fully programmable printouts/labels	-	-	-	-	-	-
	Selectable multi-language operator interface	-	-	-	-	-	-
	USB memory for weighing data storing	-	-	-	-	-	-
SOFTWARE	Single product dosage in load/unload	●	●	●	●	●	●
	Multi-product dosage	●	●	●	●	●	●
	Flow rate meter / continuous dosage on conveyor belt	-	-	-	-	-	-
	Loss in weight dosage	-	-	-	-	-	-
COMMUNICATION INTERFACES	Ethernet TCP/IP / WiFi	○	○	○	○	○	○
	Modbus TCP / DeviceNET / CanOpen / EtherCat / ProfiNet / Profibus DP	○	○	○	○	○	○
	Modbus RTU protocol	●	●	●	●	●	●
	RS485 serial port	●	●	●	●	●	●
	RS232 serial port	1	1	1	1	1	1
	868MHZ Radio frequency module	○	○	○	○	○	○
	Alibi memory	-	-	-	-	-	-
	USB connection for PC programming with Dinitools software	○	○	○	○	○	○
	Bluetooth	-	-	-	-	-	-
IN/OUT	Electronic outputs	2 + 4 [(1)]	2 + 4 [(1)]	6	6	6	6
	Digital inputs	2	2	4	4	4	4
	Analog output (0...5 Vdc, 0...10 Vdc, 0...20 mA, 4...20 mA)	-	●	-	●	-	●
HARDWARE	dimensions (mm) (lxhxw - Large x hight x width)	96 x 96 x 80		144 x 72 x 129		214 x 196 x 150	
	Display	RED LED 13 mm		RED LED 20 mm		RED LED 20 mm	
	Waterproof keyboard / integrated traffic light	5 keys / -		5 keys / -		20 keys / -	
	Case	ABS					
	Power supply	12/24Vdc, 5W					
	Operating Temperature Range: Internal use / CE-M / Humidity	-20...+60°C / -10...+40°C / 85%					
	IP protection	IP40 front panel					
WEIGHING / OIML	Connectable load cells	up to 16 of 350Ω, 45 of 1000Ω					
	Conversions / Resolution / F.S. max of Display Screen	3200Hz / 24 bit / ± 999999					
	Converter / Number of scale inputs	24 bit, 1 channel / 1 scale					
	Theoretical calibration (mV/V)	●					
	OIML features	3000e, 2x3000e, 6000e, 2x6000e, 10000e					
	OIML certifications	R76 / R61 - MID					

(1)   with option (>> page 26)

for andvanced **DOSAGE**, **PANEL** mounting | for advanced **DOSAGE**, **BENCH/WALL** mounting

	CPWE	3590ETB	3590ETT	3590EGT
	●	●	●	●
	●	●	●	●
	-	●	●	●
	●	●	●	●
	●	●	●	●
	●	●	●	●
	●	●	●	●
	●	●	●	●
	○	○	○	○
	●	●	●	●
	○	○	○	○
	○	○	○	○
	○	○	○	○
	○	○	○	○
	○	○	○	○
	●	●	●	●
	○	○	○	○
	3	3	3	3
	○	○	○	○
	○	○	○	○
	○	○	○	○
	○	○	○	○
	4 + 12 (1)	4 + 12 (1)	4 + 12 (1)	4 + 12 (1)
	2 + 6 (1)	2 + 6 (1)	2 + 6 (1)	2 + 6 (1)
	○	○	○	○
	202 x 105 x 148	265 x 175 x 90	298 x 203 x 110	280 x 143 x 185
	graphic LCD	Touch screen 5,7"	Touch screen 5,7"	Touch screen 5,7"
	24 keys / -	- / -	- / -	15 keys / ●
	ABS/Aluminium	ABS/Stainless Steel	ABS/Stainless Steel	Stainless Steel
	12/24Vdc, 30W	12/24Vdc, 50W	230Vac, 50W	230Vac, 50W
	-20...+60°C / -10...+40°C / 85%			-20...+60°C / -10...+40°C / 85%
	IP65 front panel	IP65 front panel	IP65	IP68
	up to 16 of 350Ω, 45 of 1000Ω		up to 16 of 350Ω, 45 of 1000Ω	
	3200Hz / 24 bit / ± 999999		3200Hz / 24 bit / ± 999999	
	24 bit, 4 channels / 4 indipendent scales		24 bit, 4 channels / 4 indipendent scales	
	●		●	
	3000e, 2x3000e,3x3000e, 6000e, 2x6000e, 10000e		3000e, 2x3000e,3x3000e, 6000e, 2x6000e, 10000e	
	R76 / R61 - MID		R76 / R51 - MID / R 134	

SINGLE COMPONENT DOSAGE IN LOADING

DATABASE 40 FORMULAS

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

ALARM

SILO 1

DGT100: weight repeater (page 26)

START DOSAGE

PAUSE / RESET CYCLE

V/A

ANALOGUE OUTPUT

0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

FUNCTION 1

FUNCTION 2

For direct management of the dosage speed

For transmission of the dosed weight

RS232

RS485

PLC

TCP IP / UDP — SETHDIN (page 26)

PROFI232 (page 26)

TPRPC (page 26)
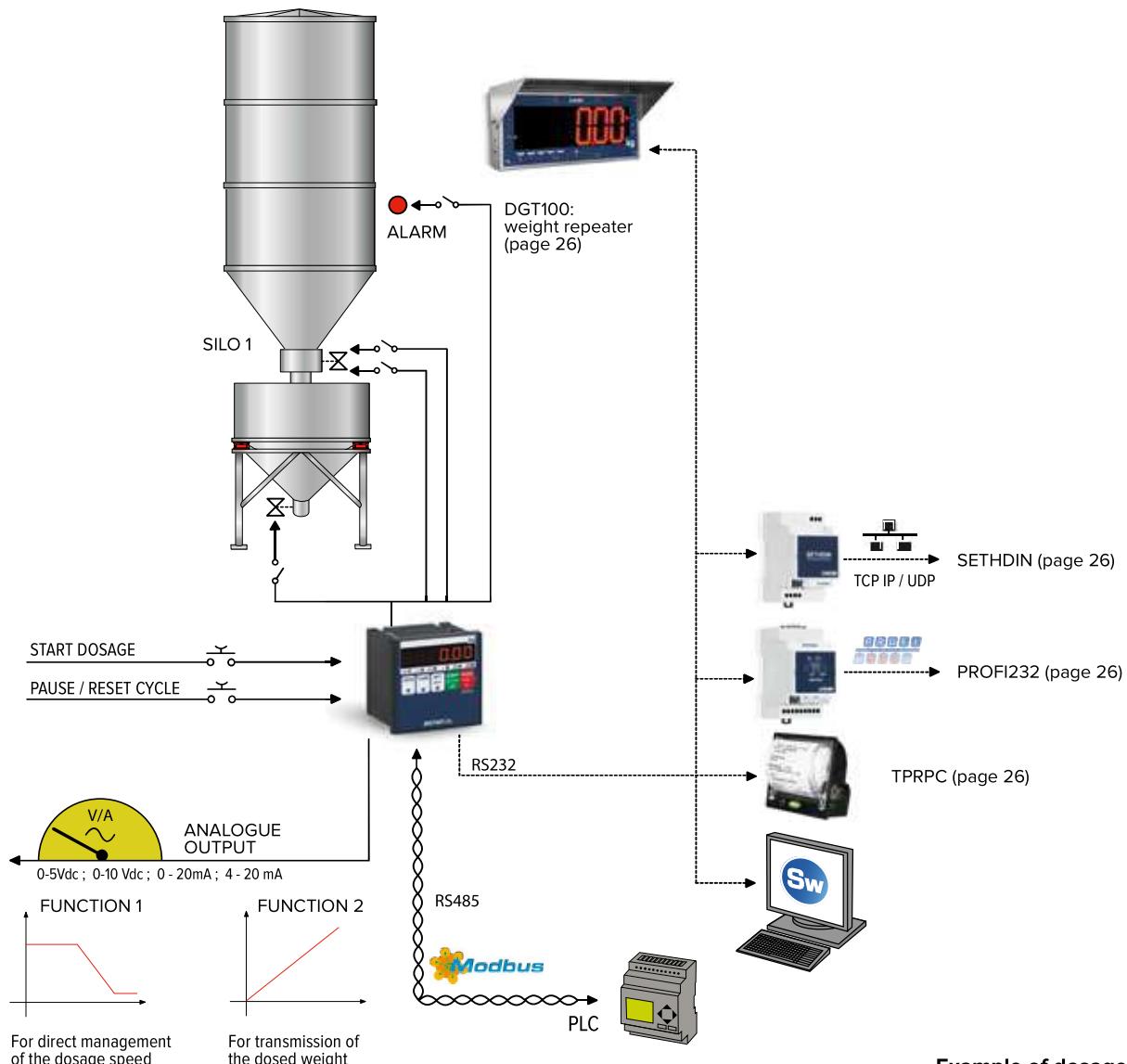
Example of dosage system using the DGTQF for loading routine

FUNCTIONS
OF THE STANDARD PROGRAM

- Automatic dosage in loading with dual speed.
- Quick change of the target to be dosed.
- Checking of the tare presence at the dosage start; the tare values are programmable for each formula.
- Automatic printing of the dosage data.
- Recording and printing of the quantities.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage

cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Digital or theoretical calibration and configuration from keyboard.
- Digital or theoretical calibration and configuration from PC via Dinitools, with the possibility of storing

the setup of the instrument to backup, simplify the technical assistance, or replicate the same configuration on other instruments (OEM).
- Quick recalibration of the zero point.
- Dini Argeo protocol for programming the formulas at distance.
- Quick interface with ETHERNET, PROFIBUS, WIFI, USB module, IN / OUT expansion.

WORK CYCLE

1. Once the dosage start command is received, the presence of the tare and weight stability is verified, with the execution of the automatic tare and the enabling of the automation through its dedicated outputs: the dosages start at maximum speed.
2. Once the speed change threshold is reached, the dosage is slowed down through the dedicated output.

3. When the TARGET cutoff point is reached, the slow dosage output is disabled and then it waits (for the configured time) for the in-flight material to complete the cycle.
4. The dosed weight is then checked for tolerance and if correct added to the ingredient total and the overall machine total.

5. Completed discharging can be controlled through enabling of dedicated outputs.
6. End dosage or automatic restart for following cycle, with update of the ingredient and machine totals.

SINGLE COMPONENT DOSAGE FOR DISCHARGE

ALARM

DGT100:
weight repeater
(page 26)

DATABASE 40
FORMULAS

AVAILABLE
FOR ATEX ZONE
1 & 21 e 2 & 22

SETHDIN (page 26)

TCP IP / UDP

PROFI232 (page 26)

TPRPC (page 26)

START DOSAGE

PAUSE / RESET

RS232

V/A

ANALOGUE
OUTPUT

0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

FUNCTION 1   FUNCTION 2

RS485

For direct management of   For transmission of
the dosage speed   the dosed weight

PLC
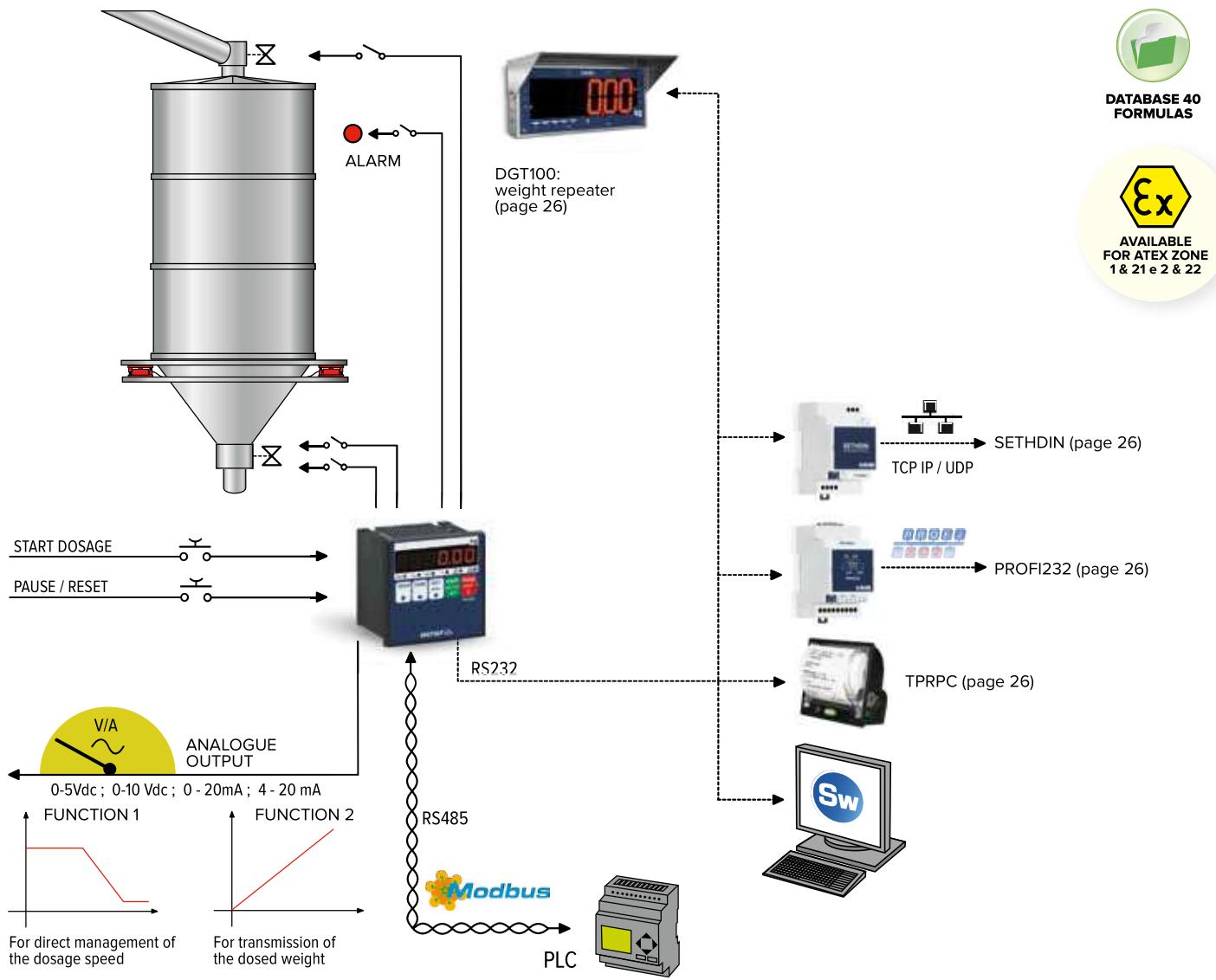
**Example of dosage system
for discharging with the DGTQF**

FUNCTIONS
OF THE STANDARD PROGRAM

- Automatic dosage for discharge with dual speed.
- Quick change of the target to be dosed.
- Automatic printing of the dosage data.
- Automatic management of the refilling of the silo using a dedicated contact.
- Recording and printing of the quantities.
- Automatic correction of in-flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.

- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Digital or theoretical calibration and configuration from keyboard.
- Digital or theoretical calibration and configuration from PC via Dinitools, with the possibility of storing the setup of the instrument to backup,

and replicate the same configuration on other instruments (OEM).
- Quick recalibration of the zero point.
- Dini Argeo protocol for remote programming of new formulas.
- Quick interface with ETHERNET, PROFIBUS, WIFI, USB module, IN / OUT expansion.

WORK CYCLE

1. Once the dosage start command is received, the instrument verifies that the quantity of material is sufficient to execute the programmed cycle. If the weight is sufficient, it executes the automatic tare and the enabling of the automation through its dedicated outputs: the dosages start at maximum speed.

2. Once the speed change threshold is reached, the dosage is slow down through the dedicated output.
3. When the TARGET cutoff point is reached, the slow dosage output is disabled and then it waits (for the configured time) for the in-flight material to complete the cycle.

4. The dosed weight is then checked for tolerance and if correct added to the ingredient total and the overall machine total.
5. Recharge of the silo up to the programmed threshold or automatically restarts with the following cycle.

MULTI COMPONENT DOSAGE

SILO 1 PRODUCT 1
SILO 2 PRODUCT 2
SILO 3 PRODUCT 3
SILO 4 PRODUCT 4
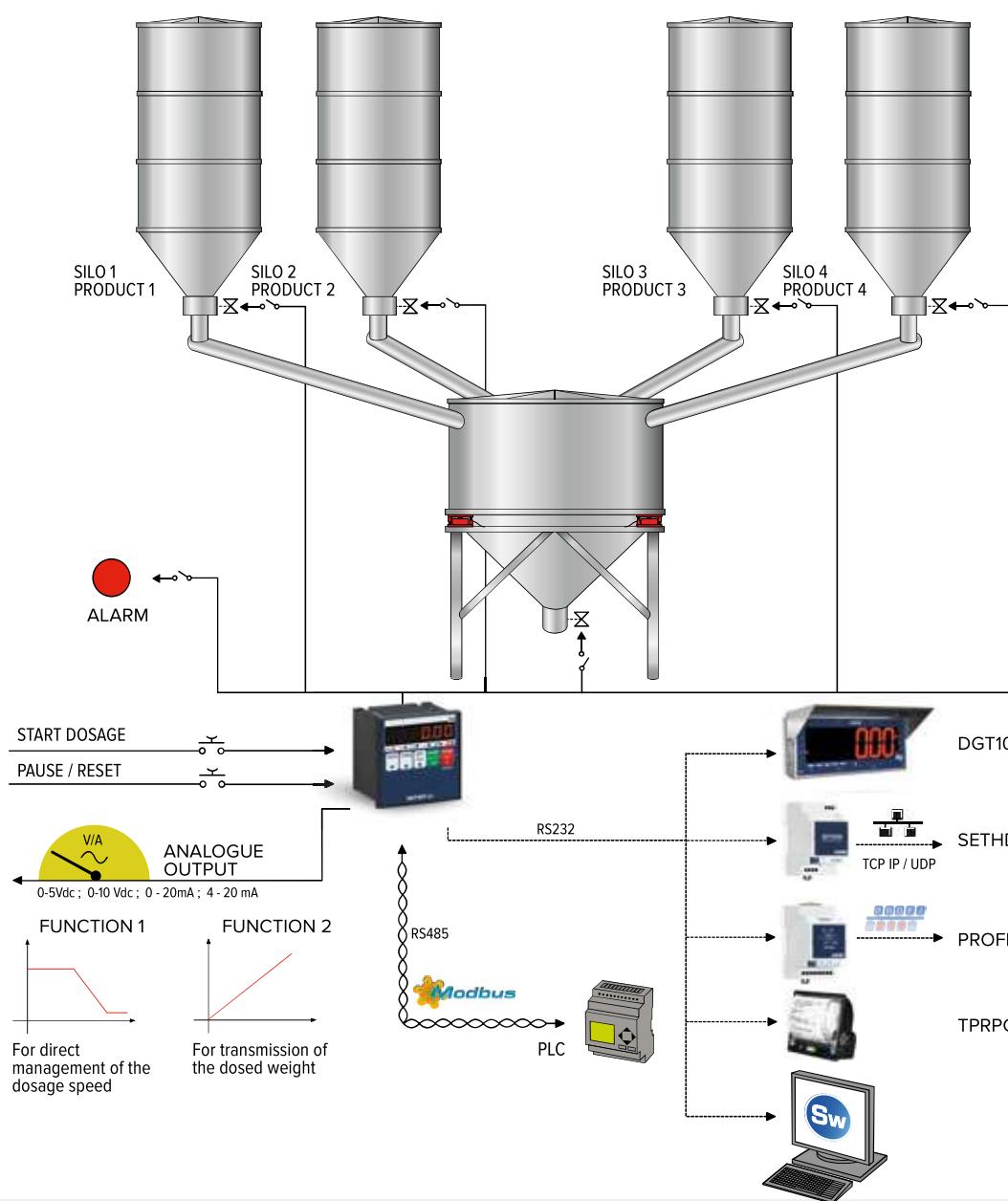
Database 16 products

Database 15 formulas with 8 products each one

4 Direct products with dual speed

3 Direct products with dual speed + Download

2 Direct products with dual speed + 2 Downloads

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

ALARM

START DOSAGE
PAUSE / RESET

ANALOGUE OUTPUT
0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

FUNCTION 1
For direct management of the dosage speed

FUNCTION 2
For transmission of the dosed weight

RS485

Modbus

PLC

RS232

DGT100 (page 26)

SETHDIN (page 26)
TCP IP / UDP

PROFI232 (page 26)

TPRPC (page 26)

Example of multi component dosage system with DGTQF

FUNCTIONS
OF THE STANDARD PROGRAM

- Database 16 products/phases.
- Database 15 formulas.
- Automatic management of 4 products in filling with dual speed, or 3 products in filling with dual speed and total discharging, or 2 products in filling and 2 discharging etc.

- Checking the presence of the tare at the dosage start.
- Automatic printing of the dosage data.
- Automatic correction of in-flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.

- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.

WORK CYCLE

1. Once the dosage start command has been received, the following takes place:
   - the presence of the tare and weight stability is verified,
   - the execution of the automatic tare and the enabling of the automation through the dedicated outputs: the instrument executes the first phase of the formula.

2. Once the first phase is finished, the instrument automatically passes to the following phase, executing the automatic tare.

3. At the end of the last configured phase, the instrument enables the fine cycle contact and waits for the start of the new dosage, or automatically restarts with the following cycle.

SINGLE COMPONENT DOSAGE IN FILLING (UP TO 4 SILOS)

Dini Argeo offers a complete range of indicators for single component dosage filling, featured by high performances, easy-to-use and fitted with various functions.

The standard input/output allows you to create advanced automations directly managed from the indicator; the keyboard functions and the displayed data are

completely customizable.
All indicators are approved for legal for trade use, according to EN45501, OIML R76.

DATABASE 500 FORMULAS

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

START DOSAGE
PAUSE / RESET CYCLE
PHOTOCELLS
LEVEL PROBES
LITER COUNTER
AUTOMATIC ACKNOWLEDGE
ALARM
MANUAL ACKNOWLEDGE

RS232 → DGT100 (page 26)

RS232 → SETHDIN (page 26)
TCP IP / UDP

PROFI232 (page 26)

TPRPC (page 26)

USBC (page 26)

RS485
Modbus
PLC

V/A
ANALOGUE OUTPUT
0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

FUNCTION 1
For direct management of the dosage speed
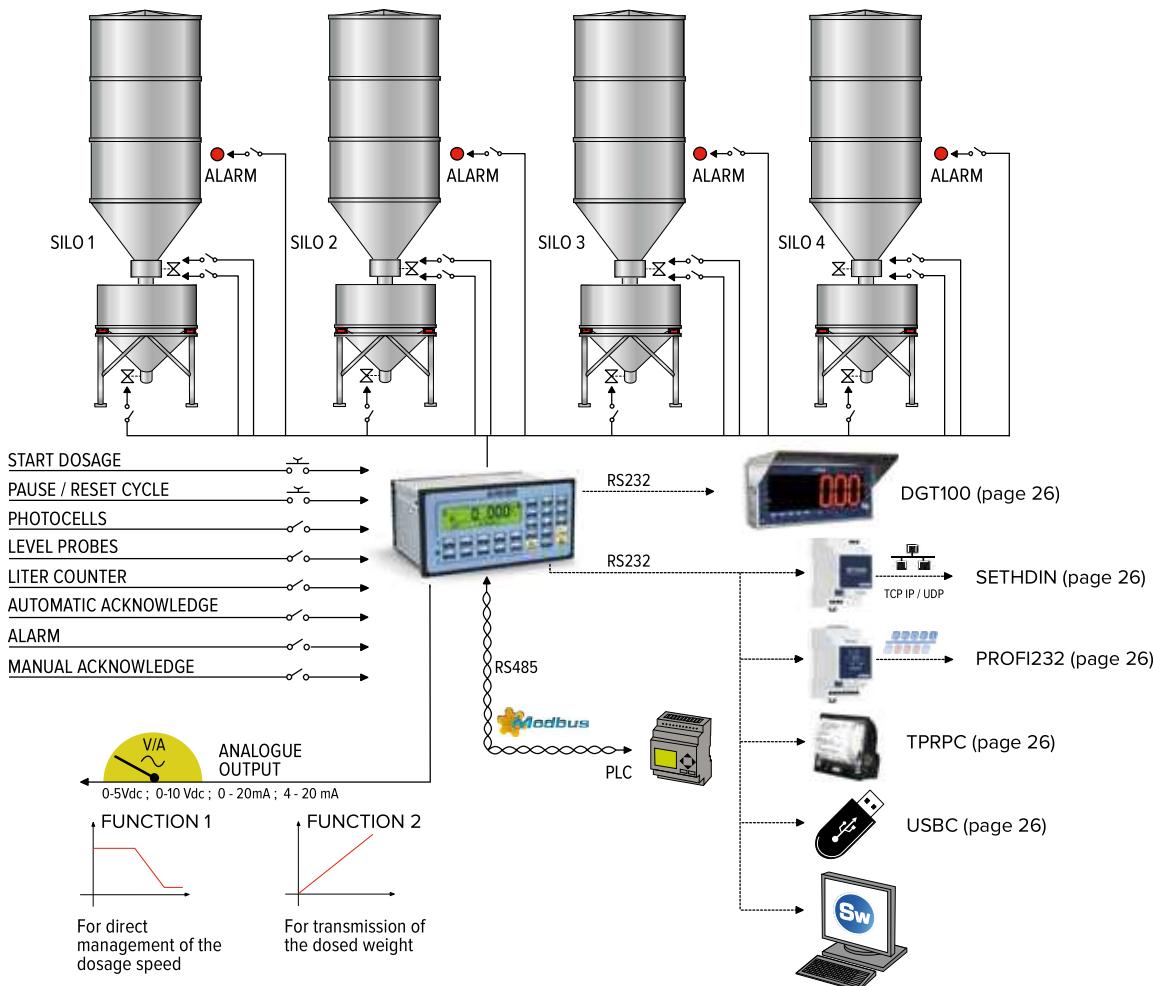
FUNCTION 2
For transmission of the dosed weight

Example of filling dosage system with CPWE

FUNCTIONS
OF THE STANDARD PROGRAM

- Single component, multi scale dosage in filling with dual speed.
- Database 500 formulas which can be quickly recalled from keyboard and programmed from Dinitools.
- Quick change of the target to be dosed.
- Checking of the tare presence at the dosage start; the tare values are programmable for each formula.
- Automatic printing of the dosage data.

- Recording and printing of the quantities.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Digital or theoretical calibration and configuration from keyboard.

- Digital or theoretical calibration and configuration from PC via Dinitools, with the possibility of storing the setup of the instrument to backup, simplify the technical assistance, or replicate the same configuration on other instruments (OEM).
- Quick recalibration of the zero point.
- Dini Argeo protocol for programming the formulas at distance.

WORK CYCLE

1. Once the dosage start command is received, the presence of the tare and weight stability is verified, with the execution of the automatic tare and the enabling of the automation through its dedicated outputs: the dosages start at maximum speed.
2. Once the speed change threshold is reached, the dosage is slow down through the dedicated output.

3. When the TARGET is reached and the configured flight weight is missing, the slow dosage output is disabled and then it waits (for the configured time) for the dropping of the material.
4. Tolerance test on the dosed weight, storage of the formula consumptions and increment of the dosed general total.

5. Complete unloading request, through enabling of dedicated output.
6. End dosage or automatic restart for following cycle, with increment of the consumptions and the totals.

SINGLE COMPONENT DOSAGE IN UNLOADING (UP TO 4 SILOS)

Dini Argeo offers a complete range of indicators for single component dosage in discharging, featured by high performances, easy-to-use and fitted with various functions.

The standard input/output allows you to create advanced automations directly managed from the indicator; the keyboard functions and the displayed data are completely customizable.

All indicators are approved for legal for trade use, according to EN45501, OIML R76.

DATABASE 500 FORMULAS

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

SILO 1 ALARM
SILO 2 ALARM
SILO 3 ALARM
SILO 4 ALARM

START DOSAGE
PAUSE / RESET CYCLE
PHOTOCELLS
LEVEL PROBES
LITER COUNTER
AUTOMATIC ACKNOWLEDGE
ALARM
MANUAL ACKNOWLEDGE

RS232 → DGT100 (page 26)

RS232 → TCP IP / UDP → SETHDIN (page 26)

→ PROFI232 (page 26)

→ TPRPC (page 26)

RS485

Modbus

PLC

→ USBC (page 26)

V/A ANALOGUE OUTPUT
0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

FUNCTION 1
For direct management of the dosage speed

FUNCTION 2
For transmission of the dosed weight
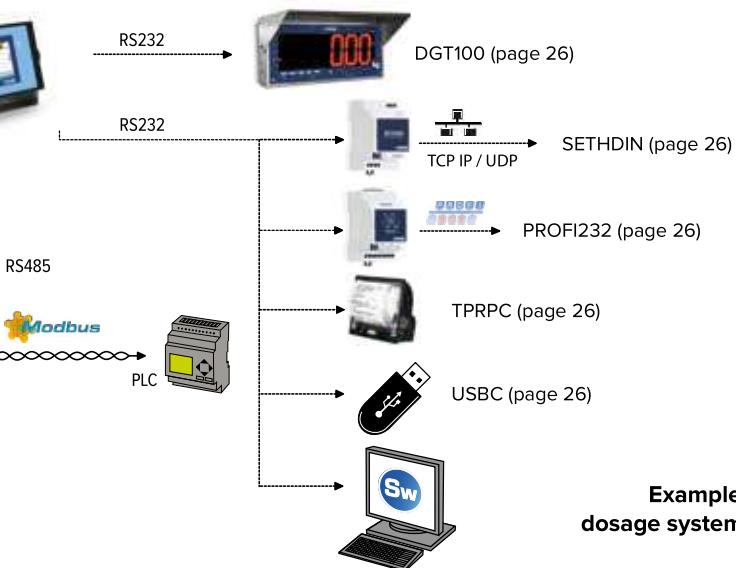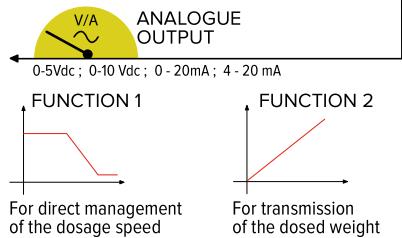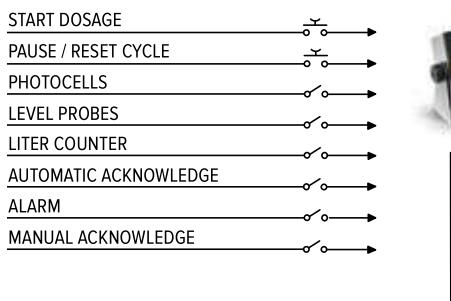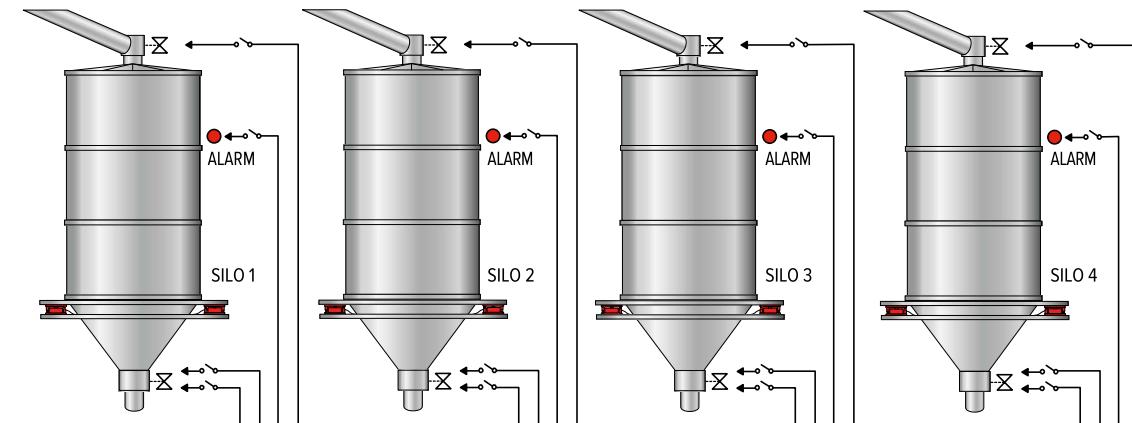
Example of discharging dosage system with 3590ETT

FUNCTIONS
OF THE STANDARD PROGRAM

- Single component, multi scale dosage in unloading with dual speed.
- Database 500 formulas which can be quickly recalled from keyboard and programmed from Dinitools.
- Quick change of the target to be dosed.
- Automatic printing of the dosage data.
- Recording and printing of the quantities.
- Automatic correction of flight weight.

- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Digital or theoretical calibration and configuration from keyboard.
- Digital or theoretical calibration and configuration

from PC via Dinitools, with the possibility of storing the setup of the instrument to backup, simplify the technical assistance, or replicate the same configuration on other instruments (OEM).
- Quick recalibration of the zero point.
- Dini Argeo protocol for programming the formulas at distance.

WORK CYCLE

1. Once the dosage start command is received, the presence of the tare and weight stability is verified, with the execution of the automatic tare and the enabling of the automation through its dedicated outputs: the dosages start at maximum speed.
2. Once the speed change threshold is reached, the dosage is slow down through the dedicated output.

3. When the TARGET is reached and the configured flight weight is missing, the slow dosage output is disabled and then it waits (for the configured time) for the dropping of the material.
4. Tolerance test on the dosed weight, storage of the formula consumptions and increment of the dosed general total.

5. End dosage or automatic restart for following cycle, with increment of the consumptions and the totals. Possible automatic recharge of the silo through a dedicated relay.

MULTI-PRODUCT SEQUENTIAL DOSAGE

Dini Argeo offers a complete range of advanced indicators for the sequential automatic dosage with various products (up to 100). The basic functioning provides a quick and easy programming of formulas which recall sequentially the dosage activities at two speeds and the discharging activities of the final mixture, with the possibility of a time management of the mixers or burners in parallel to the dosage activity.
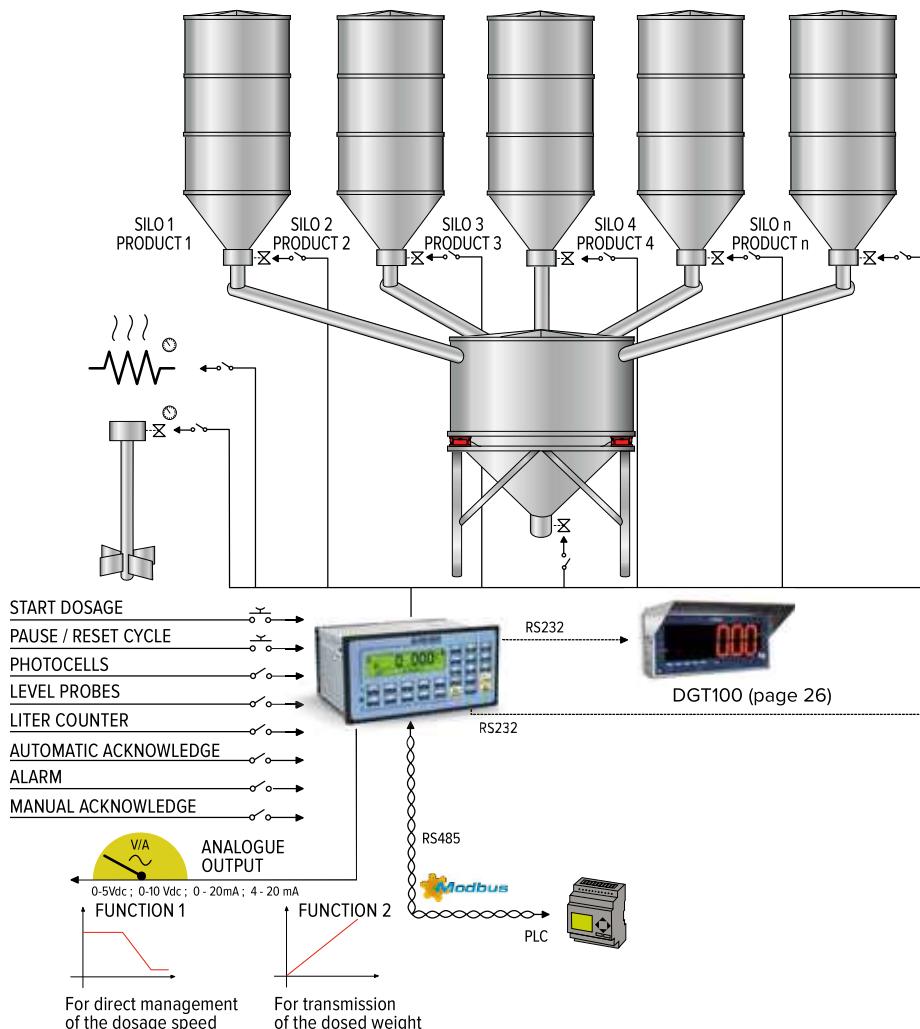
Thanks to the great configurability and integrated development area, one can completely customize the dosage cycle and the keyboard functions according to one's needs, adapting the instrument to every application.

Database 500 FORMULAS

Database 100 PRODUCTS

Up to 12 direct products, 99 with binary decoding

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

SILO 1 PRODUCT 1
SILO 2 PRODUCT 2
SILO 3 PRODUCT 3
SILO 4 PRODUCT 4
SILO n PRODUCT n

START DOSAGE
PAUSE / RESET CYCLE
PHOTOCELLS
LEVEL PROBES
LITER COUNTER
AUTOMATIC ACKNOWLEDGE
ALARM
MANUAL ACKNOWLEDGE

RS232

DGT100 (page 26)

RS232

RS485

SETHDIN (page 26)
TCP IP / UDP

PROFI232 (page 26)

TPRPC (page 26)

USBC (page 26)

Example of sequential dosage system with CPWE

V/A
ANALOGUE OUTPUT
0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA
FUNCTION 1
FUNCTION 2
PLC

For direct management of the dosage speed

For transmission of the dosed weight

FUNCTIONS
OF THE STANDARD PROGRAM

- Management of the dosage on various scales (up to 4 independents), with automatic change of the scale during the dosage.
- Database 100 products/activities.
- Database 500 formulas; each formula contains 20 products/activities.
- Checking of the tare presence at the dosage start; the tare values are programmable for each formula.

- Automatic recalculation of the formula targets, by entering the total weight to be dosed.
- Automatic printing of the dosage data.
- Recording and printing of the quantities with quick recall of the printouts from keyboard.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.

- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Completely programmable printouts, for compatibility with any ASCII printer manageable through the serial port.

WORK CYCLE

1. Once the dosage start command has been received, the following takes place:
   - the presence of the tare and weight stability is verified,
   - the execution of the automatic tare and the enabling of the automation through the dedicated outputs: the instrument executes the first phase of the formula.

2. Once the first phase is finished, the instrument automatically passes to the following phase, executing the automatic tare.
3. At the end of the last configured phase, the instrument enables the fine cycle contact and waits for the start of the new dosage, or automatically restarts with the following cycle.

SIMULTANEOUS MULTI-PRODUCT DOSAGE/BATCHING PLANTS

This application is realized by using a BATCHING main indicator connected in a RS485 network with two or more FILLING indicators, each one able to manage the dosage of one or more products. The main advantages of this application are the execution speed of the formula, thanks to the simultaneous dosage of various products, and the system modularity, which can be implemented in any moment with new modules. The dosage formulas are contained in the main control unit, while the dosage of each single product is inside the system. In this way, each remote indicator can be managed also in manual mode out of the dosage cycle.

Database 500 formulas

Database 100 products

Up to 32 products at distance and 8 simultaneous products

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

ALARM

SILO 1

ALARM

ALARM

START DOSAGE
PAUSE / RESET

START DOSAGE
PAUSE / RESET

START DOSAGE
PAUSE / RESET

RS485/

SETHDIN (page 26)

TCP IP / UDP

PROFI232 (page 26)

TPRPC (page 26)

USBC (page 26)

START DOSAGE
PAUSE / RESET CYCLE
PHOTOCELLS
LEVEL PROBES
LITER COUNTER
AUTOMATIC ACKNOWLEDGE
ALARM
MANUAL ACKNOWLEDGE

RS232

DGT100 (page 26)

RS232

V/A

ANALOGUE OUTPUT

0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

FUNCTION 1

FUNCTION 2

For direct management of the dosage speed

For transmission of the dosed weight

Example of simultaneous dosage systemwith 3590ETB and DGTQF

FUNCTIONS
OF THE STANDARD PROGRAM

- Management of the dosage on various scales (up to 4 independents), with automatic change of the scale during the dosage.
- Database 100 products/activities.
- Database 500 formulas; each formula contains 20 products/activities.
- Checking of the tare presence at the dosage start; the tare values are programmable for each formula.

- Automatic recalculation of the formula targets, by entering the total weight to be dosed.
- Automatic printing of the dosage data.
- Recording and printing of the quantities with quick recall of the printouts from keyboard.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.

- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Completely programmable printouts, for compatibility with any ASCII printer manageable through the serial port.

WORK CYCLE

1. Once the dosage start command has been received, the main control unit commands the dosage of each component, by sending specific commands to remote indicators interested.

2. During the dosage, the main control unit checks in real time each indicator, by alerting the operator about faults. Each indicator doses simultaneously to the others.

3. At the end of the dosage, the check on each dosed weight is executed and it is possible to communicate all the data to PC or print the total report.

BELT: CONTINUOUS DOSAGE ON BELT

Dini Argeo offers solutions for conveyor belts, for the real-time weighing and dosage of the material in transit.
The system is made up of one or more weighing bars / load cells, connected to the main weight indicator, which can read and adjust the hourly flow rate of the material flow and automatically stop the dosage once the programmed set point is reached. Thanks to the Modbus RTU and Profibus DP protocol, it is possible to interface the system with a PLC, or via Ethernet interface, connect it to the information company network.
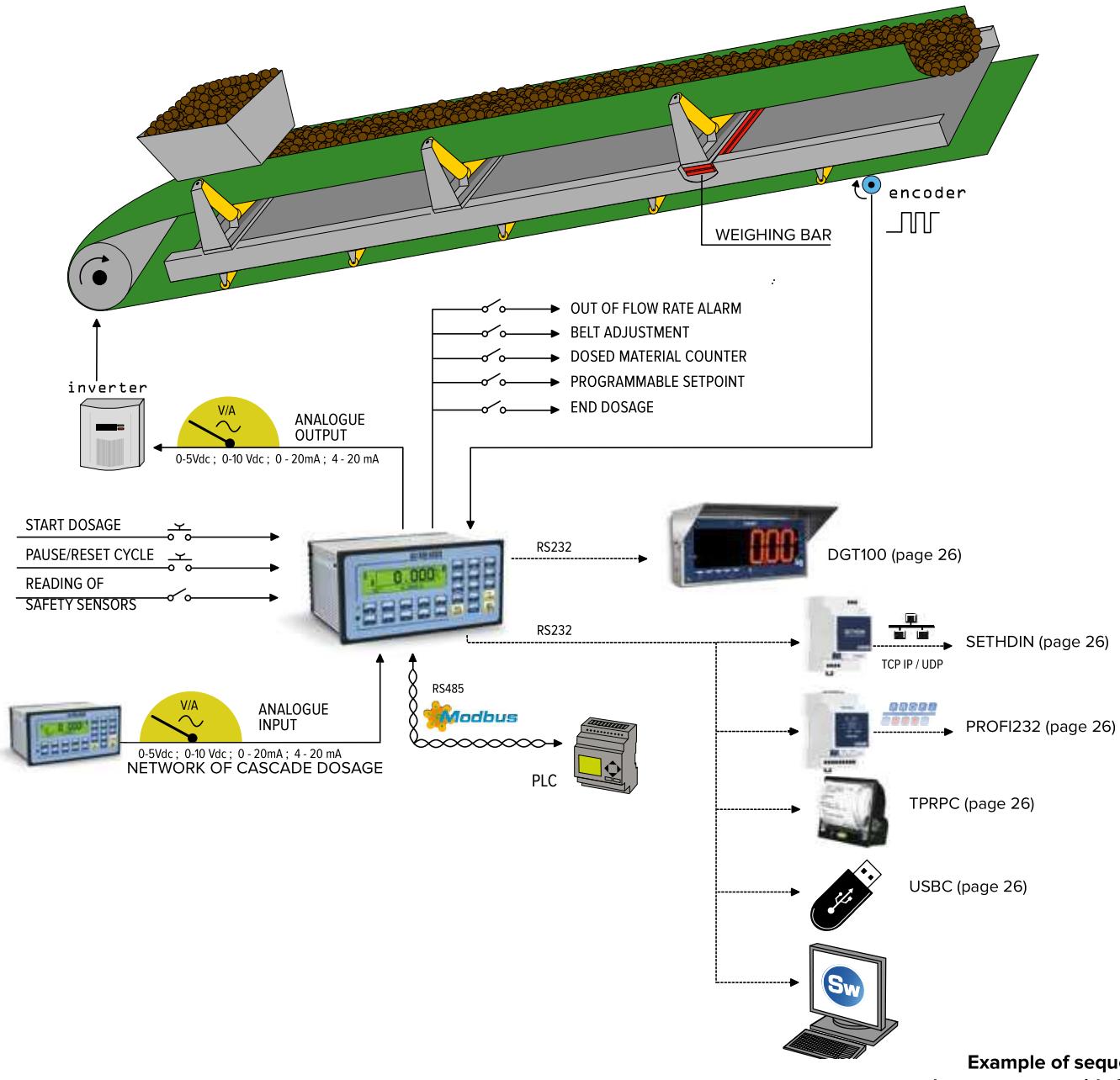
encoder

WEIGHING BAR

OUT OF FLOW RATE ALARM
BELT ADJUSTMENT
DOSED MATERIAL COUNTER
PROGRAMMABLE SETPOINT
END DOSAGE

inverter

V/A
ANALOGUE OUTPUT
0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

START DOSAGE
PAUSE/RESET CYCLE
READING OF SAFETY SENSORS

RS232
DGT100 (page 26)

RS232
SETHDIN (page 26)
TCP IP / UDP

V/A
ANALOGUE INPUT
0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA
NETWORK OF CASCADE DOSAGE

RS485
Modbus

PLC

PROFI232 (page 26)

TPRPC (page 26)

USBC (page 26)

Sw

Example of sequential dosage system with CPWE

FUNCTIONS
OF THE STANDARD PROGRAM

- 2 selectable operation modes:
  - Instantaneous reading of the flow, in kg/h or t/h with displaying of the status of the system and of the dosed total.
  - Adjustment of the dosage hourly flow, in function of the pre-set target, with PID algorithm.
- Display of the hourly flow graph and wide range of data displayed on the display.
- Calibration of the flow reading function, for controlling the dosage performances.

- Reading filter of the hourly flow with configurable incidence and speed depending on the system.
- Programmable dosage target upon weight or upon time, with relative contact.
- Programmable start dosage delay, for synchronisation of various E-BELT systems in the dosage of material mixtures.
- Management of the slow flow with programmable activation threshold, for more precise dosages.

- Management of the dosage total under way and general total of dosages, printable and clearable independently from each other.
- Management of the automatic dosage from remote master or through Profibus DP or Modbus RTU protocol.
- Printing of the dosage data and the total.
- Completely programmable printouts, for compatibility with any ASCII printer manageable through the serial port.

LW: CONTINUOUS DOSAGE IN UNLOADING

Software version for the measurement/integration of the weight, the flow of material exiting from silos, tanks, or hoppers, with

recording of the quantity of dosed material; possibility of adjusting the flow through the 16 bit analogue output and the PID control.

Option of the remote management of the instrument through Modbus RTU or Profibus protocols.

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

MANAGEMENT OF THE AUTOMATIC REFILLING WITH PROGRAMMABLE THRESHOLDS

OUT OF FLOW RATE ALARM

DOSED MATERIAL COUNTER

END DOSAGE

GET TARGET

PROGRAMMABLE SETPOINT

ANALOGUE OUTPUT
V/A
0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA

inverter

START DOSAGE
PAUSE/RESET CYCLE
READING OF SAFETY SENSORS

RS232 — DGT100 (page 26)
RS232

SETHDIN (page 26)
TCP IP / UDP

V/A
ANALOGUE INPUT
0-5Vdc ; 0-10 Vdc ; 0 - 20mA ; 4 - 20 mA
NETWORK OF CASCADE DOSAGE

RS485
Modbus

PLC

PROFI232 (page 26)

TPRPC (page 26)

USBC (page 26)

FUNCTIONS
OF THE STANDARD PROGRAM

- 2 selectable operation modes:
  - Instantaneous reading of the flow, in g/h, kg/h or t/h with displaying of the status of the system and of the dosed total.
  - Adjuster of the dosage hourly flow, in function of the pre-set target, with PID algorithm.
- Display of the hourly flow graph and wide range of data displayed on the display.
- Calibration of the flow reading function, for perfecting the dosage performances.

- Reading filter of the hourly flow with configurable incidence and speed depending on the system.
- Programmable dosage target upon weight or upon time, with relative contact.
- Programmable delay at the start, for synchronisation of various E-LW systems in the dosage of material mixtures.
- Management of the slow flow with programmable activation threshold, for more precise dosages.

- Management of the dosage total under way and general total of dosages, printable and clearable independently from each other.
- Management of the automatic dosage from remote master or through Modbus RTU or Profibus protocols.
- Printing of the dosage data and the total.
- Completely programmable printouts, for compatibility with any ASCII printer manageable through the serial port.

THE FUNCTIONS OF THE WEIGHT INDICATORS CAN BE EXTENDED
THANKS TO THE WIDE RANGE OF AVAILABLE ACCESSORIES

INTERFACE, EXPANSIONS AND ACCESSORIES

ETH
Ethernet interface

Network interface	10/100 Base-T
Protocols	TCP, UDP, DHCP, SNMP, SSL 3.0/TLS 1.0, HTTP, SMTP, ICMP, IGMP, ARP

BLTH
Bluetooth interface

Class	2
Maximum working distance (in optimal conditions)	10m
Transmission speed	9600 baud/300 kbps
Standard bluetooth	2.0 + EDR

DAC160
Analogue output

Configurations	0..5Vdc / 0..10Vdc / 0..20mA / 4..20mA
Resolution / Precision	16 bit / 0,08% F.S.
Update frequency	50Hz

WIFIT
Wi-Fi interface

Type	WiFi IEEE 802.11b
Capacity	70m outdoor - 30m indoor
Frequency	2.4 GHz
Data Rate	11 Mbps con automatic fallback
Protocols and functioning modes	foreseen by the IEEE 802.11b, including WEP (criyptography)

ADC16I
Analogue input

Configurations	0..5Vdc / 0..10Vdc / 0..20mA / 4..20mA
Resolution / Precision	16 bit / 0,08% F.S.
Reading speed	100Hz

SETDIN
Ethernet / RS485 / RS232 Converter
for DIN bar

Ethernet protocols	TCP, UDP, DHCP, SNMP HTTP, SMTP, SSL 3.0/TLS 1.0, ICMP, IGMP, ARP.
Ethernet network interface	10/100 Base-T
Ethernet communication speed	10-100Mbps
Operating temperature	-10..+50°C

DGT100R
Universal weight repeater

Case	Stainless steel IP68
Display	100mm very bright red SMD LEDs

PROFI232
RS232 / PROFIBUS DP Converter
for DIN bar

Power supply	12/24Vdc - 12W
Speed	9,6 Kbit/s..12Mbit/s
Input	RS232
Output	Profibus DP slave (IEC 61158)

RSCBUSB
USB 2.0 interface

interface support	UART for 7 or 8 data bits, 1 or 2 stop bits and odd / even / mark / space / no parity
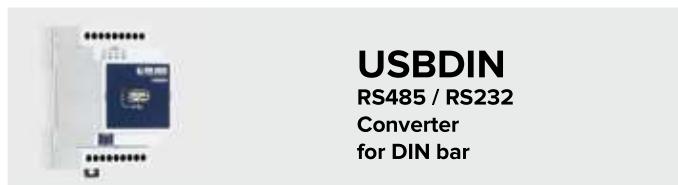
USBDIN
RS485 / RS232 Converter
for DIN bar

Input	RS232 o RS485
USB port for data storing, more than 5.000.000 weighs	
Remote data reading by serial communication	

OBRF232
Radio frequency module 868 MHz

Power supply	external power supplier
Input signal	RS232
Case	ABS IP65 120x80x55mm
Cable	RS232, 3m long

USBC
USB memory with extractable key

Recording weighs	up to 5.000.000
Recording format	Text (.txt) or Excel (.csv)
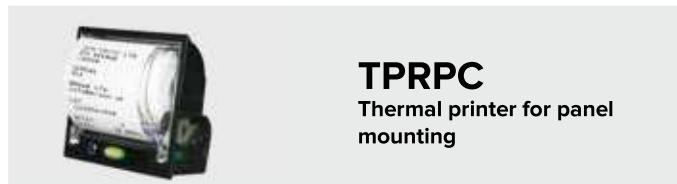
TPRPC
Thermal printer for panel mounting

Paper width / Roll max. diameter	58mm / 50mm
Print speed	up to 50mm/sec
Resolution	203 dpi

PROFIBUS1S

Input	RS485 (Quick Connect) or RS232
Output	Profibus DP

WIFI1S

Input	RS485 (Quick Connect) or RS232
Output	WiFi

ETHERCAT1S

Input	RS485 (Quick Connect) or RS232
Output	EtherCat

ETHERNET1S

Input	RS485 (Quick Connect) or RS232
Output	Ethernet TCP/IP - UDP

PROFINET1S

Input	RS485 (Quick Connect) or RS232
Output	ProfiNet

DEVICENET1S

Input	RS485 (Quick Connect) or RS232
Output	DeviceNET

CANOPEN1S

Input	RS485 (Quick Connect) or RS232
Output	CanOpen

QUICK CONNECT

Thanks to the "quick connect" system, available on the SLIM case devices, the connection between modules is faster and easier.

PC SOFTWARE FOR CONFIGURING
THE WEIGHT INDICATORS

DINITOOLS

- Management of the customers and designers systems databases, with recording of attachments, pictures, etc.
- Recording of the current configuration of the designed system to simplify and speed up any future replies.

- Calibration of the scale with use of the sample weights, with up to 8 linearisation points.
- Theoretical calibration, by entering the data of the system to be made.
- Pre-calibration of the indicator's electronic card.

- Digital equalization.
- Modify/send/receive all the set-up parameters of the connected scale, with the subsequent recording of the executed configuration.
- Quick and easy compilation of the databases.
- Customization of the printout layout.
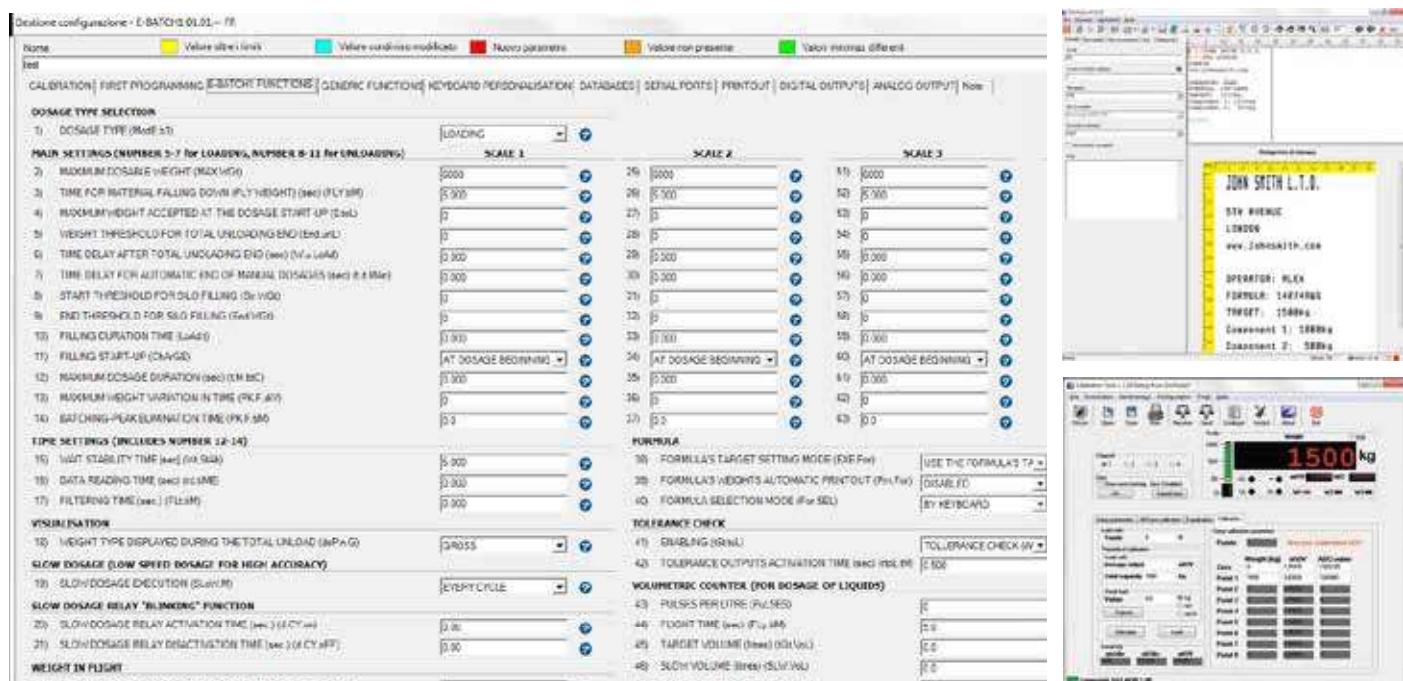
SOFTWARE FOR MANAGING THE WEIGHTS
FROM DINI ARGEO SCALES

WEIMONITOR

WeiMonitor is our PC program which allows you to monitor and record in real time all the weights made on the connected scale, storing them in a text or Excel file for further processing.