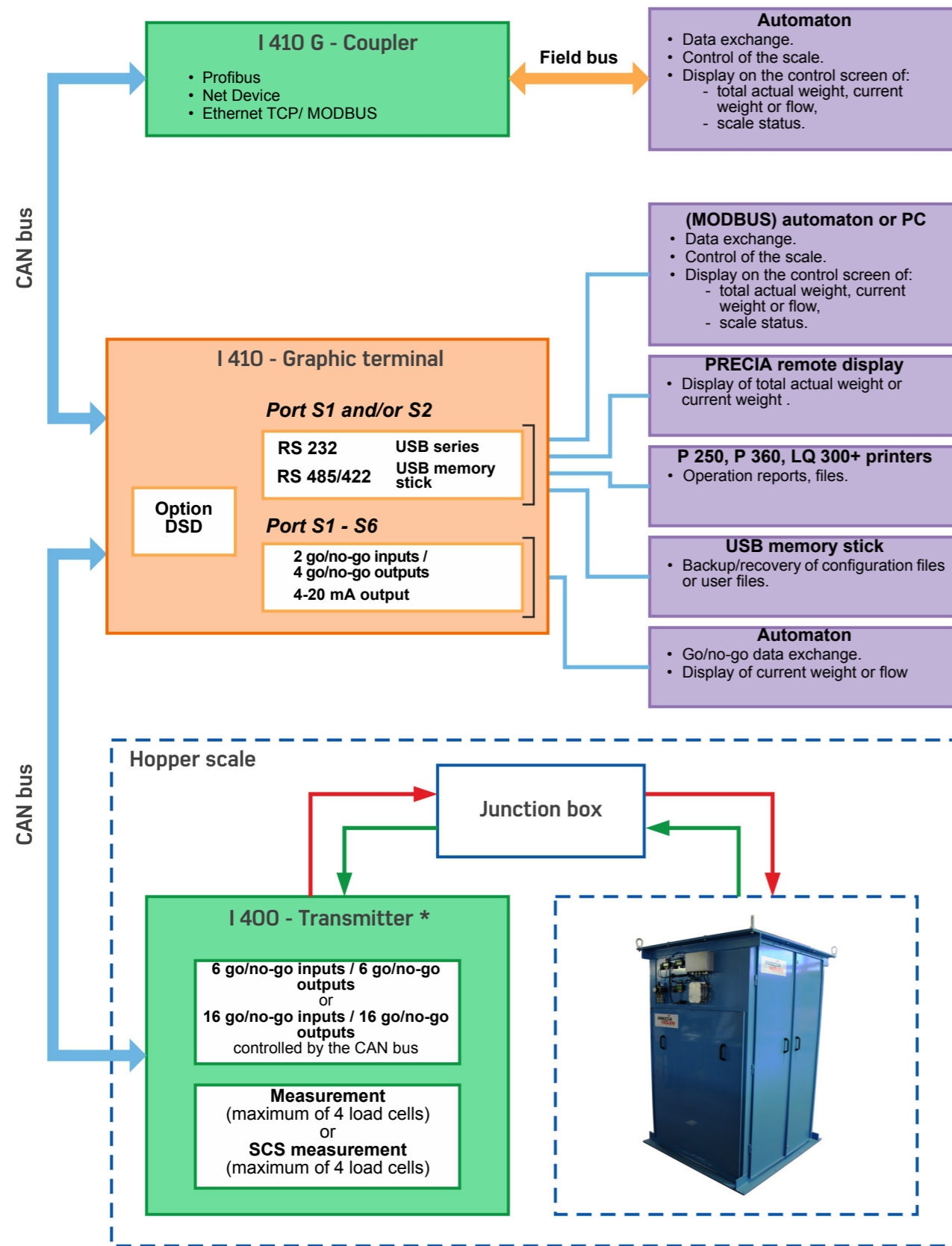


## Configuration block diagram



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## I 410 ABS Discontinuous Weighing Software

**PRECIA MOLEN™**  
WORLDWIDE WEIGHING



### Application

The I 410 system equipped with I 410 ABS software is the measuring and control device for PRECIA MOLEN hopper scales.

The I 410 ABS system can substitute for any type of indicator on existing installations.

The I 410 ABS software may control any type of hopper scale:

- hybrid with levers or 100% electronic,
- with one or several filling gates.

This software meets the three fundamental requirements of this field of application:

- Unloading,
- Outloading,
- Product transfer.

### Functionalities

I 410 instrumentation can be used to obtain high performances (up to 500 cycles per hour or more depending on the product type).

I 410 ABS instrumentation has many functions:

- Quick and easy adapting to the different products handled.
- Automatic adapting to variations in product feed flow.
- Product leakage checks.
- Automatic check weigh, if the hopper scale is equipped with the automatic placing of test weights.
- Management of the product feed conveyor belt based on a pre-entered set point.
- Management of the printing of start-up and completion reports either as a hard copy or to a USB memory stick (virtual printer). Possibility to print error reports and/or weigh reports as they are received during an automatic cycle.
- Management of a remote display showing the total actual weight for the current operation or the current weight.
- Retrieval of data and totals for operation files on a PC or USB memory stick for IT processing as necessary.
- Recording of the results of operations in a PC-compatible file for use in advanced processing.

- Availability of operation files to schedule a sequence of operations.
- Possibility to sequence operations automatically. E.g.: train loading – sequencing of one operation per wagon.
- Possibility to suspend an operation to fit in a different operation and then return to the previous operation. E.g.: when loading a ship with several holds.
- Possible remote control (automatic mode) by an automaton via an industrial field bus: CAN Open, MODBUS, TCP/MODBUS, Profibus-DP, DeviceNet. In this case, the I 410 ABS terminal becomes a slave terminal.
- If the I 410 ABS terminal is a master terminal (autonomous mode), it is possible to receive information on one single operation in progress in real time via a field bus. Refer to the user manual for more information on I 410 ABS, 04-41-60 MU.
- In option, the SCS\* (Self Checking Scale) system maintains the metrological accuracy over time. This function is achieved by two separate measuring channels (load cells and transmitter).

### Configuration

Operating parameters for the I 410 ABS system are organised in several files, based on 4 levels of intervention protected with a password:

- Engineer: Metrological adjustment and configuration of Input/Output.
- Supervisor: Configuration of Operation, Product, Reference and Results files.
- Operator: Definition of set points and access to results.
- User level: Rights limited to the selection and start of cycles.

This segmenting of parameters renders the I 410 system modular and easy to integrate in most industrial processes. This also secures the operation of the application by preventing access by an unauthorised operator.

### Hardware configuration

The use of the I 410 ABS software requires at least the following basic configuration:

- an I 410 ABS terminal,
- an I 400 TB transmitter,
- for scales:
  - of ABS-X type:
    - a 6 I/O board to install in the transmitter,
    - an I 400 JB ABS (steel) junction box or I 400 JB-S ABS (stainless steel),
  - of ABS-XL type, a RIO 16 E/S CAN box to install on the hopper scale.

\* Only available on the ABS-XL hopper scale range.

Your specialist

Non contractual illustrations. Precia-Molen reserves the right to alter the characteristics of the equipment described in this brochure at any time.

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## Operator interface

### Automatic cycle display



1. Main application screen (display of the current weight and cycle step).
2. F1: Validation or rejection of the upper bin low level check.
3. F2: Request for upstream circuit draining.
4. F3: Full weigh hopper pause.
5. F4: Empty weigh hopper pause.

### User data

#### File characteristics

Files	Capacity	Code	Designation	Intervention level
Operations	50	4c. alpha.	-	Operator
Product	50	4c. alpha.	20c. alpha.	Supervisor
Reference 1 & 2	100	12c. alpha.	20c. alpha.	Supervisor
Cycle parameter file	20	2c. num.	-	Supervisor
Weighing parameter file	1	1c. num.	12c. alpha.	Supervisor
Results file	500	-	-	-

#### Structure of the results file

Parameters	Format	Parameters	Format
Batch n°	12c. alpha.	Operation type	Shipment/Reception/Transfer
Operation n°	Num.	Product code	4c. alpha.
Start date	dd/mm/aa	Reference code 1	12 digits
Start time	hh/min	Reference code 2	12 digits
End date	dd/mm/aa	Information 1	20c. alpha.
End time	hh/min	Totaliser set point	Num.
Weigh hopper designation	12c. alpha.	Total for the run	Num.
DSD or weighing run n°	Num.	Operating time	hh/min

#### Data storage (DSD)

- Max. number of recordings: 48 000.
- Values saved: DSD n°, total actual weight for the operation, operation number, operation status.

### Metrological certification

- ▼ According to OIML recommendations and compliant with the MID European Directive relative to Automatic Weighing Instruments (AWI): proven compatibility of modules according to criteria explained in the WELMEC 2 guide.
- ▼ Test certificate of LNE number - 15625 rev. 2 of 11/03/2010  
Accuracy class : 0.2 - 0.5 - 1 - 2

6. F5: Access to the cycle monitoring screen (animated block diagram).
7. F6: Increased filling rate.
8. F7: Reduced filling rate.
9. F10: Access to the Operations screen.
10. Automatic cycle stop.
11. Automatic cycle start.
12. Validation.

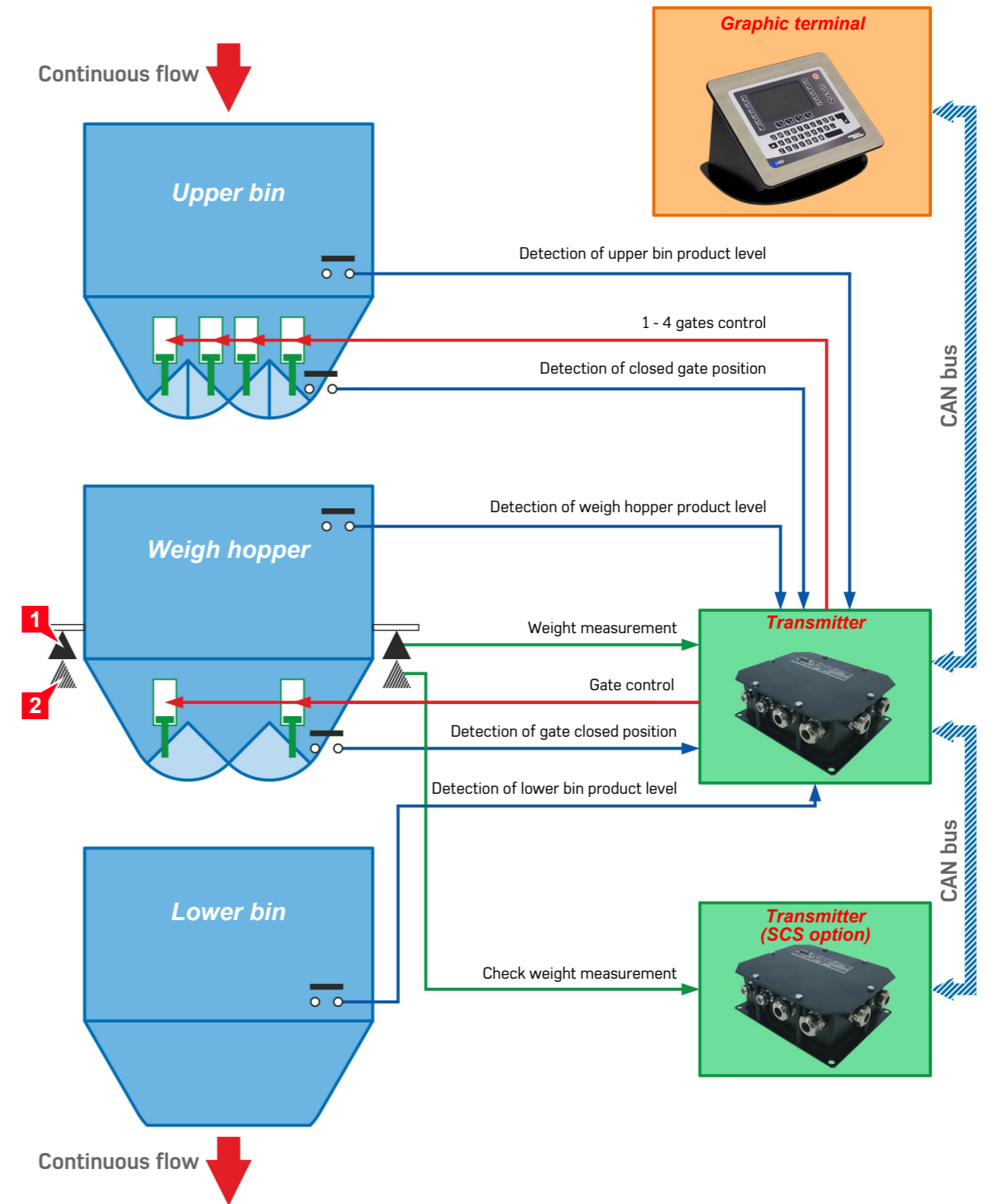
The function keys F1 - F10 are structured into several access levels. They may have different functions depending on the screen displayed.

### Operations screen

This screen shows the parameters of a weighing operation.

OPERATION	49	SUSPENDED
Batch No.	130326-AAA	
PRODUCT	Son	
DISPATCH Σ :	1206.5 kg	ΣS
PRESELECTION	Ø500	kg
OPERATOR	SG	
CLIENT	PAB	
QUALITY	Standard	

## Block diagram



1. Master load cell channel
2. Slave load cell channel