ARPEGE MASTERK

Saint PRIEST, Wednesday 20th February 2019,

CALIBRATION INSTRUCTIONS

IDE 400 / IDE 500 (V4)

Core N°	User manual N°	Edition
IDe V1.1	IDe_Gb_Reglage IDe400-500 V4_rev00.docx	00

Calibration instructions, IDé 400 / IDé 500 (V4)

Date	Edition number	Object of the modification
20/02/2019	00	Original

CONTENTS

1. ⚠ WARNING ⚠

⚠ **CONNECTING ANALOGUE SENSORS TO THE IDÉ READOUT UNIT** ⚠

1/ Check that *the 9-pin socket is disconnected from connector M1 on the IDé readout unit*.

2/ Connect the sensors and link cable inside the connection box, *as shown below* (example given with one BR41 and two sensors).
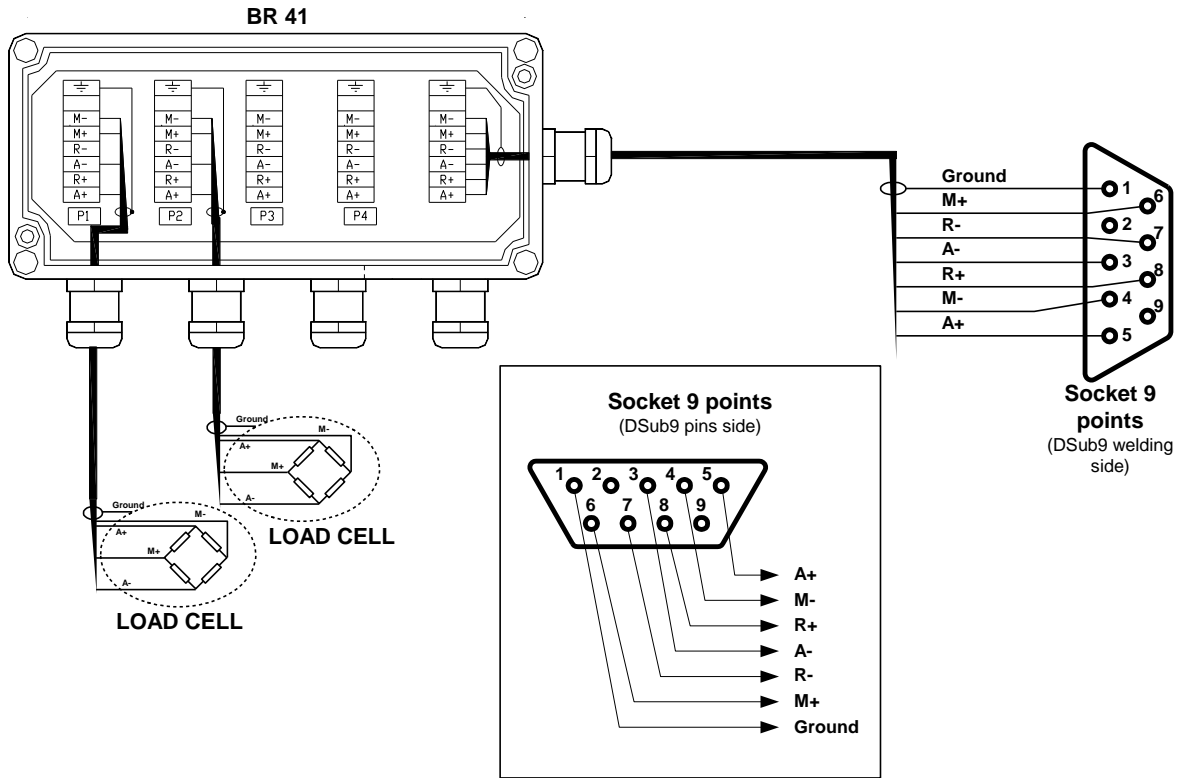
3/ *Before connecting the sensor cable to the M1 connector on the IDé unit, check the impedances on the 9-pin connector, as follows:*

- between pins *3 and 5 (A- and A+)*:   the impedance must be *greater than 45 Ω*.
- between pins *7 and 8 (R- and R+)*:   the impedance must be *greater than 45 Ω*.
- between pins *3 and 7 (A- and R-)*:   the impedance must be *equal to 0 Ω*.
- between pins *5 and 8 (A+ and R+)*:   the impedance must be *equal to 0 Ω*.

Note: *If the sensor power supplies are short-circuited, the MIC4424 chip (IC13) may be destroyed.*

2.   PRESENTATION OF THE UNIT

2.1.   Technical characteristics

Maximum number of steps (in regulatory mode):   6000.
Minimum input step: 0.75 µV.
Weighing cell supply voltage: 7.5 V AC square.
Number of measurements / second (quick):   20 to 180
Load impedance (analogue sensors):   ≥ 45 Ohm.

Zero displayed at 1/4 scale.
Interactive digital calibration on front panel.
Mains power supply: 230 V / 50 Hz or 60 Hz + earth < 5 ohms.
DC power supply: 12 V (or optionally 24 V).
Consumption: 15 to 25 VA max, depending on configuration.
Battery-backed internal clock and memory.

IDé 400:   -   Display: 240×64 pixel LCD screen, showing a 6-digit weight with 15 mm high digits, and an operator guide.
           -   Keypad: 51 keys. (4 metrological keys + 47 alphanumeric application keys)

IDé 500:   -   Display: 240×128 pixel LCD screen, showing a 6-digit weight with 15 mm high digits, and a complete operator guide.
           -   Keypad: 9 keys. (4 metrological keys + 5 application keys) and a 102 keys PC keyboard.

2.2.   Peripherals

The IDé readout unit features the following as standard:
❖ Two serial links:
COM1:   RS232 and/or RS485, 2 wires (Short distance link: max. 10 metres).
COM2:   Passive current loop, or optional* RS232, RS485, 0/10 V, 4/20 mA, active or passive current loop, Ethernet Modbus TCP (XPort) (Long distance link: max. length depends on link type).
                 *: How options are managed depends on the features of the application software.

❖ USB* slave interface:
USB: For communication with a PC (Short distance link: max. 3 metres).
                 *: How the USB slave interface is managed depends on the features of the application software.

❖ Parallel interface:
LPT: For printing on a parallel printer (Short distance link: max. 3 metres).

❖ One input for analogue sensors: (For analogue version readout units)
M1:   6-wire analogue sensor(s) (Long distance link: max. 150 metres)

⚠ *Reminder: Only one cable should be connected to M1. Sensors may be connected in parallel via a separate connection box.*

❖ One CAN bus interface:
MASTER CAN: Digital sensor(s), terminals, repeaters (Long distance link: max. 1,000 metres).

2.3.   Options

❖ Memory extension:
   EXT. MEM: Memory extension (USB stick)

3. FRONT PANEL

3.1. Display and indicators
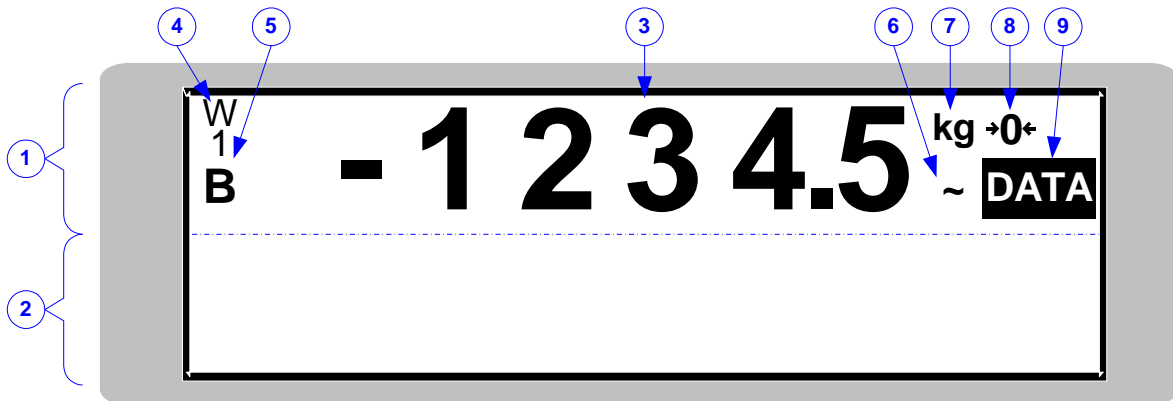
IDé 400 display:
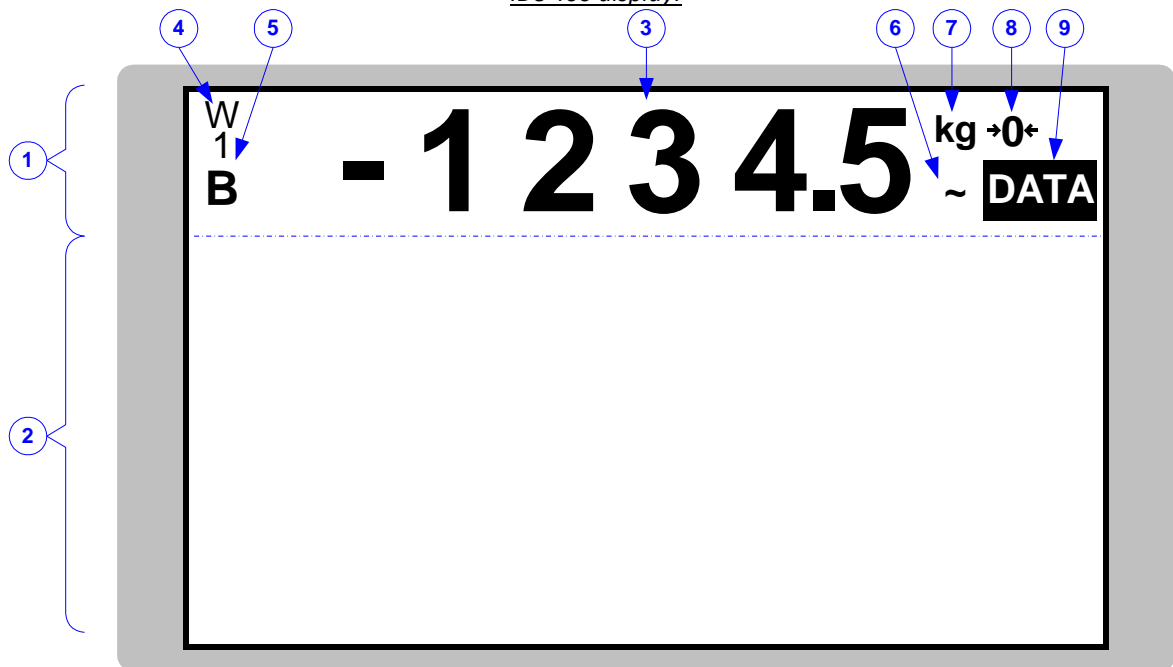
IDé 500 display:

Key:

- 1 ⇒ Metrological section. (Weight, metrological status, etc.)
- 2 ⇒ Application section / Operator guide (menu, parameters, etc.).
- 3 ⇒ Weight: 6 digits, 15 mm high.
- 4 ⇒ Indicates the current measurement range: **W1** or **W2**.
- 5 ⇒ Indicates the type of weight display: gross (**G**) or net (**Net**).
- 6 ⇒ Indicates if the displayed weight is stable ( ) or not (**~**).
- 7 ⇒ Indicates the weight unit: **kg** or **t**.
- 8 ⇒ Indicates if the null weight is at ¼ scale division (**>0<**) or not ( ).
- 9 ⇒ Indicates if the displayed data is a **DATA**.

3.2. IDé 400 keypad

Application and metrological keys:

Alphanumerical and application keys:

Function keys: *(Unused in calibration mode)*

F1 -   F2 +   F3 ←   F4 →
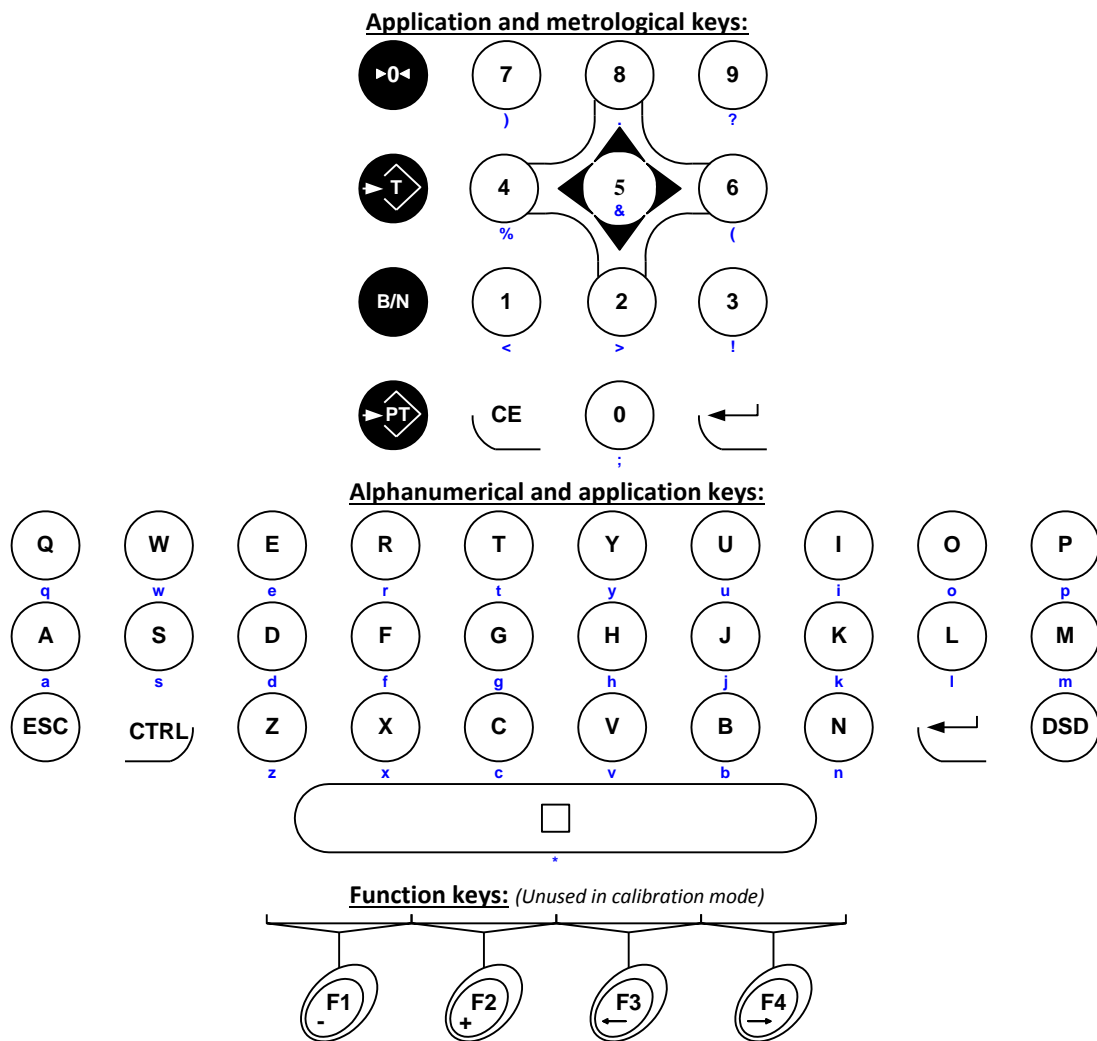
Legend:

$\boxed{A}$ to $\boxed{Z}$ ⇒ Alphanumerical keys for seizure of the alphanumerical data.

⇒ Space key for seizure of the alphanumerical data.

$\boxed{0}$ to $\boxed{9}$ ⇒ Numerical keys for seizure of the numerical data.

$\boxed{2}$ and $\boxed{8}$ ⇒ These keys form a pseudo mouse used to move around the various menus:

$\boxed{2}$ = ↑

$\boxed{8}$ = ↓

CE ⇒ **C**orre**c**tion key, used to clear or reset the data being entered.

↵ ⇒ Confirm data entered or displayed and access a function.

ESC and DSD ⇒ Exit/abort the current seizure.

CTRL ⇒ Control for the extension of the write mode.

During the seizures, the combination of the key $\overset{\text{CTRL}}{\smile}$ with some other keys allows generating additional characters: (Combined with the letters "**A**" to "**Z**", we have lower-case letters, and combined with the digits "**0**" to "**9**" and the space bar "☐" we have punctuation characters.)

CTRL / A	: a	**CTRL / I**	: i	**CTRL / Q**	: q	**CTRL / Y**	: y	**CTRL / 6**	: (
CTRL / B	: b	**CTRL / J**	: j	**CTRL / R**	: r	**CTRL / Z**	: z	**CTRL / 7**	:)
CTRL / C	: c	**CTRL / K**	: k	**CTRL / S**	: s	**CTRL / 0**	: ;	**CTRL / 8**	: .
CTRL / D	: d	**CTRL / L**	: l	**CTRL / T**	: t	**CTRL / 1**	: <	**CTRL / 9**	: ?
CTRL / E	: e	**CTRL / M**	: m	**CTRL / U**	: u	**CTRL / 2**	: >	**CTRL / ☐**	: *
CTRL / F	: f	**CTRL / N**	: n	**CTRL / V**	: v	**CTRL / 3**	: !	**CTRL / F1**	: -
CTRL / G	: g	**CTRL / O**	: o	**CTRL / W**	: w	**CTRL / 4**	: %	**CTRL / F2**	: +
CTRL / H	: h	**CTRL / P**	: p	**CTRL / X**	: x	**CTRL / 5**	: &		

Metrological keys:

⇒ "**T**are" key, used to perform a semi-automatic tare on a gross weight.

⇒ "**B/N**" key, used to switch for four seconds from displaying gross weight to net weight and vice versa.

⇒ "Zero" key, used to reset the gross weight to zero. (Within the authorised range)

3.3. IDé 500 keypad

Application and metrological keys:

Legend:

- 1 ⇒ "**Up**" key: Used to increment a flashing digit by one unit when entering data, or to return to the previous function in a menu.
- 2 ⇒ "**VAL**" key: Used to confirm (validate) data entered, or to access the function displayed.
- 3 ⇒ "**Right**" key: Used to Exit/abort the current seizure.
- 4 ⇒ "**Down**" key: Used to reset the data item being entered, or to change the sign of signed data and to go to the next function in a menu.
- 5 ⇒ "**Left**" key: Used to move the digit being entered to the left.

⇒ Exit/abort the current seizure.

Metrological keys:

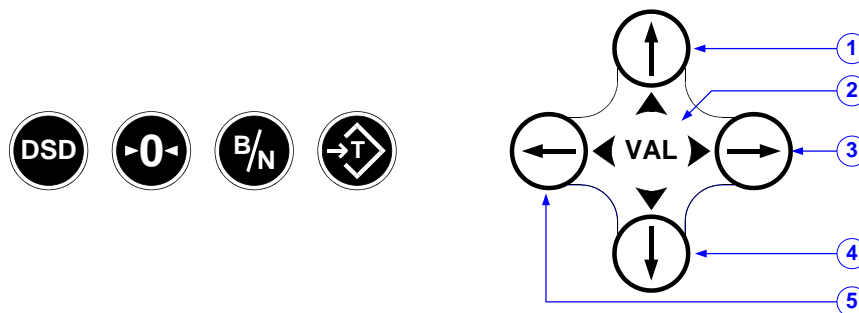⇒ "**T**are" key, used to perform a semi-automatic tare on a gross weight.

⇒ "**B/N**" key, used to switch for four seconds from displaying gross weight to net weight and vice versa.

⇒ "Zero" key, used to reset the gross weight to zero (within the authorised range).

4. CALIBRATION MODE

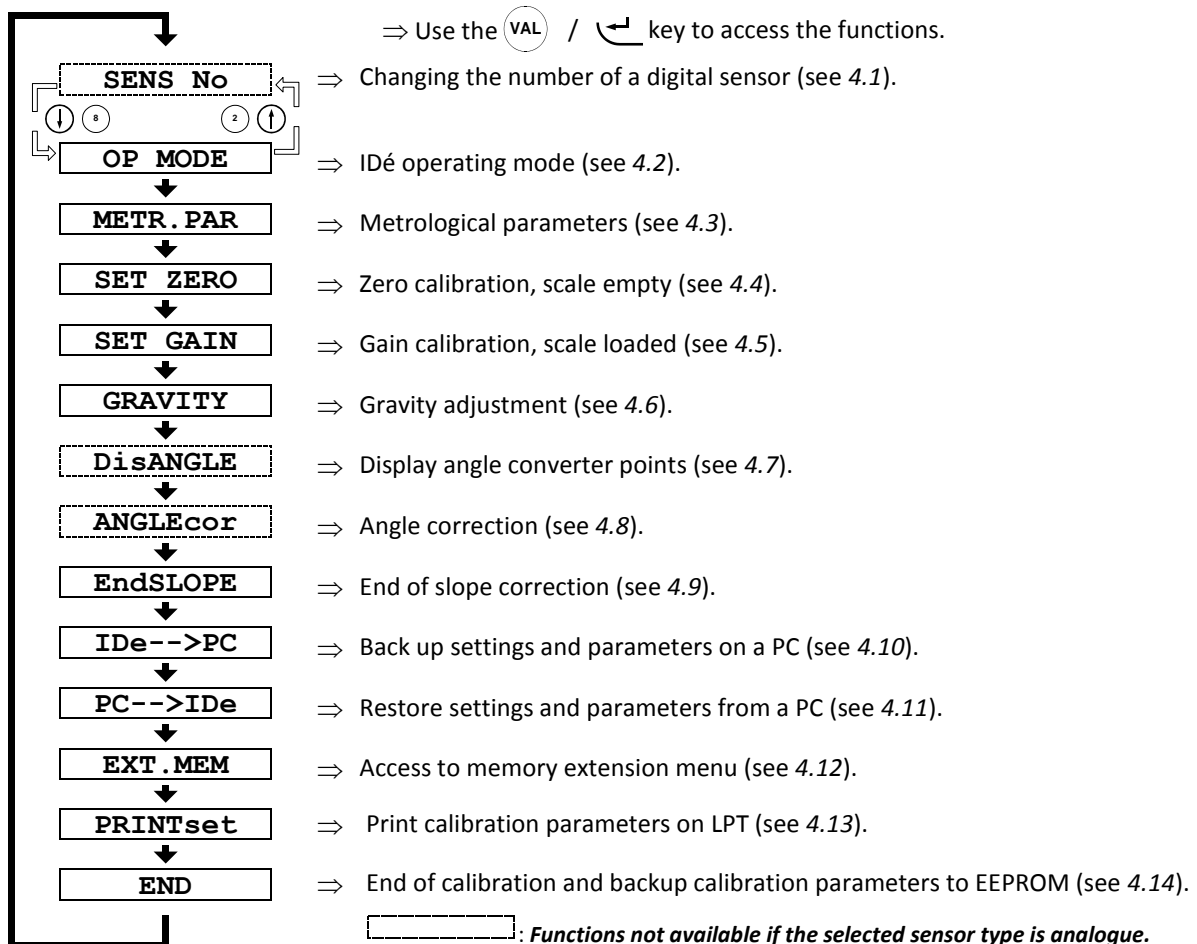⚠ **The unit must only be adjusted by an authorised operator.** ⚠

The "Mode" LED inside the unit, near the buzzer, shows the current mode: (see *6.2. IDé board layout*)
  ➢ LED lit   ⟹ Normal mode.
  ➢ LED off   ⟹ Calibration mode.

Changing between normal mode and calibration mode: A calibration switch inside the IDé unit, near the battery, is used to change from one mode to the other (see *6.2 IDé board layout*).
Proceed as follows:
  - Turn off the readout unit, toggle the calibration switch, and then power the readout unit on.
  - The start-up phases are displayed "**4**", "**3**", "**2**" then "**1 REGL**". The language for calibration mode can be selected on the operator guide and the contrast adjustment can be performed. (This contrast adjustment is used at the indicator's power on)
  - Use the ⊖/⑥ and ⊖/④ keys to adjust the LCD screen contrast.
  - Use the ⊕/② and ⊕/⑧ keys to select the desired language, then confirm by pressing ◀VAL▶/↵.
  - The operator guide displays the message "**CALIBRAT**". Press a key to display the calibration menu below.

⟹ Use the (VAL) / ↵ key to access the functions.

Menu		
SENS No	⟹	Changing the number of a digital sensor (see *4.1*).
OP MODE	⟹	IDé operating mode (see *4.2*).
METR.PAR	⟹	Metrological parameters (see *4.3*).
SET ZERO	⟹	Zero calibration, scale empty (see *4.4*).
SET GAIN	⟹	Gain calibration, scale loaded (see *4.5*).
GRAVITY	⟹	Gravity adjustment (see *4.6*).
DisANGLE	⟹	Display angle converter points (see *4.7*).
ANGLEcor	⟹	Angle correction (see *4.8*).
EndSLOPE	⟹	End of slope correction (see *4.9*).
IDe-->PC	⟹	Back up settings and parameters on a PC (see *4.10*).
PC-->IDe	⟹	Restore settings and parameters from a PC (see *4.11*).
EXT.MEM	⟹	Access to memory extension menu (see *4.12*).
PRINTset	⟹	Print calibration parameters on LPT (see *4.13*).
END	⟹	End of calibration and backup calibration parameters to EEPROM (see *4.14*).

⌐‒‒‒‒‒¬ : *Functions not available if the selected sensor type is analogue.*

⚠ **IMPORTANT: If a power failure occurs during calibration mode, before the backup is performed, all calibration parameters and values are lost.** ⚠

4.1.   Changing the number of a digital sensor

This function is not available if the parameter "**SENSOR TYPE 0=An 1=Dig 2=Candy**" is set to "**0**" (analogue sensor), see *4.2*.

When a sensor or transmitter is replaced, the CAN host number of the old sensor or transmitter must be assigned to the new sensor or transmitter, as follows:
-   Confirm this function.
-   Enter the CAN host number of the sensor or transmitter (**53**), confirm.
-   Enter the CAN host number of the sensor or Transmitter to be replaced (number from 1 to 12), confirm.

If the sensor or transmitter number is not **53** (sensor or transmitter already used):
-   Isolate the sensor or transmitter by disconnecting the CAN_H and CAN_L leads from the other sensors and transmitters.
-   Confirm this function.
-   Enter the CAN host number of the sensor or transmitter (**00**), confirm.
-   Enter the CAN host number of the sensor or transmitter to be replaced (number from 1 to 12), confirm.
-   Reconnect all the sensors and transmitters for a test.

Note: Digital sensors and transmitters are factory-set to the value **53**.

This function can also be used to automatically number all the digital sensors and transmitters present on the CAN bus of the readout unit, regardless of their host number, as follows:
-   Confirm this function.
-   Enter CAN host number 99, confirm the launch of the "**AUTOMATIC NUMBERING ? (0=No 1=Yes)**" by enter 1.
-   Automatic numbering is started, the message "**WAIT 15s**" is displayed.
-   Once numbering is complete, the sensors and transmitters are displayed (see *4.7*) enabling the numbering to be checked.

Host numbers are assigned in increasing order of the serial numbers.

4.2.   IDé operating mode

All the following parameters must be entered in this menu:

INDICATOR TYPE   (1/2/3/4/5) : *XX*   Readout unit type (2 digits).
                                        00 = Reserved.
                                        01 = Reserved.
                                        02 = Reserved.
                                        03 = Reserved.
                                        04 = IDé 400 front panel.
                                        05 = IDé 500 front panel.

SENSOR TYPE 0=An 1=Dig 2=Candy: *X*   Desired sensor type.
                                      0 = Analogue sensor(s).
                                      1 = ARPEGE MASTER-K digital sensor(s).
                                      2 = CANDY transmitter(s).

SENSOR NUMBER ... (1 to 12) : *XX*   Number of sensors and transmitters connected (1 to 12).

INPUT RANGE (mV) 1=10 2=20 3=40: *X*   Analogue / digital converter input rating.
                                      0 = Default rating (20 mV).
                                      1 = Rating 10 mV.
                                      2 = Rating 20 mV.
                                      3 = Rating 40 mV.

`MESUREMENT/SECOND X*20 (1to9) :` XX Number of measurements per second = "X" x 20.

       1 = 20 measurements per second.

       2 = 40 measurements per second.

       etc.

       8 = 160 measurements per second.

       9 = 180 measurements per second.

`MULTI. RANGE (0 = No 1 = Yes) :` X If the instrument has a plate with two ranges and two scales, this parameter must be set to 1.

`AUTO SWITCH  W2/W1  (0=N 1=Y) :` X Automatic switching from W2 to W1 on return to zero, this parameter is only taken into account if multi-scale mode was previously enabled.

`E2 1=ROMAINE 2=INCLINO 0=NOTH.:` X Use of auxiliary input "**E2+**".

       0 = Auxiliary input "**E2+**" not used.

       1 = Dial scale switch connected to "**E2+**".

       2 = Inclinometer connected to "**E2+**".

`REGULATED MODE ( 0=No 1=Yes ) :` X If the readout unit is intended for regulated use (commercial transactions, etc. and bears EC conformity markings) it is mandatory to set this parameter to 1. If this is not the case, the 6000 step and semi-automatic zeroing zone safety mechanisms are disabled.

`DSD Number                  :` $XXXXXX$ DSD number which will be used on the next DSD storage. (Only available on some software release)

4.3. Metrological parameters

All the following parameters must be entered in this menu:

`RANGE W1 (1kg to 500000kg) :` $XXXXXX$ Range of weighing scale W1.

`DIVISION W1(max 500,000kg) :` XXX,XXX Scale division (multiple of 1, 2, 5) of weighing scale W1.

`RANGE W2 (1kg to 500000kg) :` $XXXXXX$ Range of weighing scale W2. Parameter only available if multi-scale mode was enabled previously.

`DIVISION W2(max 500,000kg) :` XXX,XXX Scale interval (multiple of 1, 2, 5) of weighing scale W2. Parameter only available if multi-scale mode was enabled previously.

`IMMOBILITY   (0,2d a 3,0d) :` X,X Depending on the conditions in which the scale is installed, the immobility zone will need to be adjusted.

`NB OF IMMOBILE MEASM.(0..9):` X Determines the speed at which immobility is reached according to the calculation = ("X" x 8) + 8 (8 to 80: number of measurements needed to achieve immobility).

```
NUMERIC FILTER (XX average):
```
XX   If the filter is set to zero the measurement is not filtered; if set to 99 the filter is at its highest.

```
NET WEIGHING (0=N 1=Y 2=PT):
```
X   NET weighing operation.

0 = NET weighing not permitted (GROSS only).

1 = NET weighing permitted.

2 = NET weighing only permitted with a tabulated tare (TSA key disabled).

```
FOLLOWING ZERO (0=No 1=Yes):
```
X   Zero follower enabled or disabled.

```
AUTOMAT. ZERO (0=No 1=Yes) :
```
X   Automatic zero enabled or disabled.

```
ZERO POWER ON (0=No 1=Yes) :
```
X   Zero on power up of readout unit (at +/- 10% of the range) enabled or disabled.

4.4. Zero calibration

Before entering this menu, check the sensor connections and the condition of the load receiver (scale, weighbridge, chute, etc.).
If the load receiver is empty and clean, you may confirm zero calibration.

The duration of this operation depends on the time needed to obtain a stable measurement. Vibrations must be avoided.

4.5. Gain calibration

Before entering this menu, the zero calibration must have been performed.
Place the calibration weights on the load receiver then confirm gain calibration. The operator guide displays `"Calibration weight value (kg):"`. Enter the total weight using the IDé keypad, then confirm.

The duration of this operation depends on the time needed to obtain a stable measurement. Vibrations must be avoided.

Notes:
- A good quality calibration requires calibration weights totalling close to the maximum range of the scale.
- This operation may be repeated several times without removing the weights.

4.6. Gravity adjustment

This function is used to enter the value of gravity in the calibration location and the gravity in the location where the unit is installed:

```
Calibration gravity (G):
```
X.XXXXX   Enter the gravity corresponding to the calibration location.

```
Utilization gravity (G) :
```
X.XXXXX   Enter the gravity corresponding to the installation location.

4.7.   Displaying the value of an angle

This function is not available if the parameter "**SENSOR TYPE 0=An 1=Dig 2=Candy**" is set to "**0**" (analogue sensor), see *4.2*.

When this function is confirmed, the screen below is displayed.

①	②	③	④	⑤	⑥
No	Pts	EPP SN	DLC SN	m/s	Stat.
01	+1391	00068100	00068107	63	OK
02	+1395	00068100	00068108	61	OK
03	+1394	00068100	00068109	62	OK
04	+1391	00068110	00068110	62	OK
05	+1396	00068110	00068111	63	OK
06	+1392	00068110	00068112	61	OK
07	+1397	00068110	00068113	62	OK
08	+1398	00068110	00068114	62	OK
09	+1397	00068110	00068115	63	OK
10	+1392	00068110	00068116	63	OK
11	+0	00068110	00000000	0	COM
12	+181965	00068110	00068118	62	HG+

Example of screen for the IDé 500:

Legend:
- 1   ⇒ CAN host number of sensors.
- 2   ⇒ Number of points returned by the sensors.
- 3   ⇒ Sensor's serial number stored in the indicator.
- 4   ⇒ Sensor's serial number read by the indicator.
- 5   ⇒ Measurement per second send by the sensors.
- 6   ⇒ Sensors status ("**OK**" = functional, "**COM**" = communication error, "**HG+**" = overload…).

In the case of the IDé 400 only the first six sensors are displayed, to display the following sensors use the key ⑧ to return at the previous sensors display use the key ② .

This function is simply used to check that a sensor is online or to see the load distribution on the load receiver.

4.8.   Angle correction

This function is not available if the parameter "**SENSOR TYPE 0=An 1=Dig 2=Candy**" is set to "**0**" (analogue sensor), see *4.2*.

It enables a correction to be applied if an angle is too high or too low. Enter the CAN host number of the sensor to be corrected then the correction value in converter points.

Note: ARPEGE MASTER-K digital sensors give 100,000 points for the maximum range of the sensor.

4.9.   End of slope correction

This function can be used to apply a slight correction to the slope (system gain).
It may be used in particular to compensate for variation in the "g" factor for the location where the complete instrument is used.

If a slight offset at full load is noted when the scale is checked, this function can be used to correct the error:
-    Confirm this function then enter the correction value and confirm again.
-    Check the result of the correction by viewing the weight on the display.

Note: The correction sign may be changed using the ⊙ / ⌣^CE .key. If a minus sign is displayed before the value, a negative correction is applied; if the plus sign is displayed a positive correction is applied.

4.10.   Backing up settings and parameters on a PC

This menu is used to save all the settings and parameters in a text file (.TXT) on a PC.

To transfer the settings:
-    Connect the PC (COM 1) to the IDé unit (**COM1**) using a PC/IDé connection cable.
-    Run the *HyperTerminal* program (Access path to hypertrm.exe: **"C:\Program Files\Accessories\HyperTerminal\HYPERTRM.EXE"**)
-    Enter a name for the la connection then click OK (TERMINAL.IDE).
-    In the "*Connect using*" section, select "*Direct to COM1*".
-    Configure the connection at *9600 baud, no parity bits, one stop bit, no flow control*.
-    Return to the main screen, select "*Transfer*" then "*Capture Text*", define the backup file name and confirm by clicking "*Start*". The PC waits to receive data.
-    On the IDé unit, confirm the "`IDé-->PC`" function.
-    The operator guide displays "`Tr. Num zone (1/2/3/4/5):`". Use the IDé keypad to select the memory zone to transfer, then confirm.
-    During transmission, the backup is displayed on the PC screen; the IDé unit displays "`Tr`" followed by an animated cursor.
-    To stop the backup, select "*Transfer*", "*Capture Text*" and "*Stop*".
-    Once the backup is complete, return to the service menu.

Details of the memory zones that can be transferred:

ZONE 1:	Metrology EEPROM	(Transfer lasts a few seconds).
ZONE 2:	Application EEPROM	(Transfer lasts a few seconds).
ZONE 3:	Includes all previous zones	(Transfer lasts a few seconds).
ZONE 4:	Reserved.	
ZONE 5:	Reserved.	

4.11.   Restoring the settings and parameters via a PC

This menu is used to restore all settings and parameters saved previously on a PC, in a text file (.TXT).
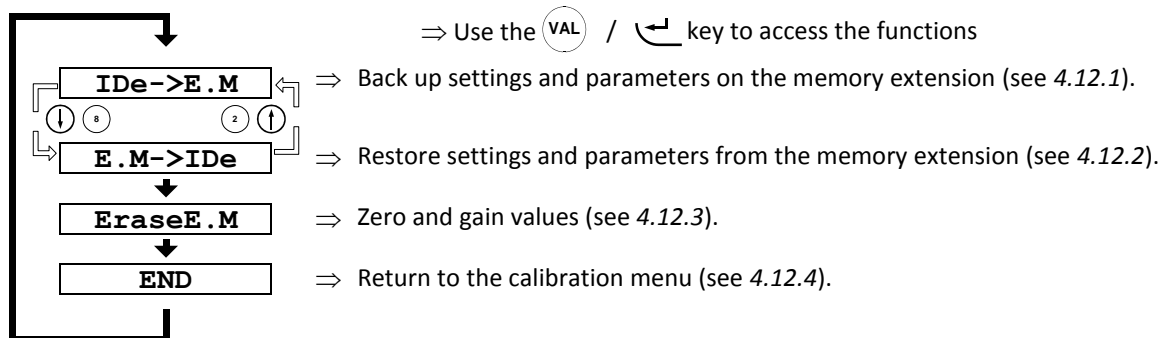
To transfer the settings:
-    PC (COM 1) to the IDé unit (**COM1**) using a PC/IDé connection cable.
-    Run the *HyperTerminal* program (Access path to hypertrm.exe: **"C:\Program Files\Accessories\HyperTerminal\HYPERTRM.EXE"**)

- Enter a name for the la connection then click OK (TERMINAL.IDE).
- In the "*Connect using*" section, select "*Direct to COM1*".
- Configure the connection at *9600 baud, no parity bits, one stop bit, no flow control*.
- On the IDé unit, confirm the "`PC-->IDé`" function.
- The operator guide displays "`Re. Num zone (1/2/3/4/5):`". Use the IDé keypad to select the memory zone to restore, then confirm. The IDé unit waits for data.
- On the PC, select "*Transfer*" then in "*Send text file*", select the backup file to be transferred and click "*Open*". The PC transmits the data.
- During transmission, the IDé unit displays "`Re`" followed by an animated cursor.
- Once the restore is complete, return to the service menu.

4.12. Memory extension menu

This function gives access to the memory extension (USB stick option) menu shown below.

⇒ Use the (VAL) / ↵ key to access the functions

`IDe->E.M`	⇒ Back up settings and parameters on the memory extension (see *4.12.1*).
`E.M->IDe`	⇒ Restore settings and parameters from the memory extension (see *4.12.2*).
`EraseE.M`	⇒ Zero and gain values (see *4.12.3*).
`END`	⇒ Return to the calibration menu (see *4.12.4*).

4.12.1. Backing up settings and parameters to memory extension
This function is used to save all settings and parameters (EEPROM metrology zone) to the memory extension.

When you select this function, the message "`WRITE ..`" is displayed during the backup.
Once the backup is complete, return to the service menu.

4.12.2. Restoring settings and parameters from the memory extension
This function is used to restore all settings and parameters (EEPROM metrology zone) stored previously in the memory extension.

When you select this function, the message "`READ ...`" is displayed during the restore.
Once the restore is complete, return to the service menu.

4.12.3. Erasing of the memory extension
This function allows the resetting of the memory board. (Formatting of the memory board)

⚠ **ATTENTION: THIS FUNCTION MAKES THE MEMORY BOARD COMPLETELY BLANK.** ⚠

4.12.4. Return to the calibration menu
This function is used to return to the calibration menu (see *4. CALIBRATION MODE*)

4.13. Printing parameters and calibration settings

If a printer is connected to the **LPT** and/or **COM1** port, you can keep a paper copy of the parameters and calibration settings by selecting this function.

4.14. End of calibration and storing data

Select this function to quit calibration mode and save the parameters and settings.

While the data is being stored, the operator guide displays "**SAVE**". This operation takes several seconds. The message "**StrapOFF**" is then displayed, set the calibration switch back to its initial position (normal mode). The readout unit will restart in application mode.

4.14. End of calibration and storing data

5. ERROR MESSAGES

5.1. Error messages on the weight display

ALIM : Power supply fault (voltage too low).

HG : Out of range plus (converter capacity exceeded)

HG- : Out of range minus (converter capacity exceeded)

EEPROM : EEPROM CRC Error (message displayed continuously)

REF : Error on input M1 (sensor connection or sensors defective).

HE : Off scale, range exceeded (+9 divisions).

HE- : Off scale, weight below zero (-9 divisions).

OVERFL : Calculation capacity exceeded.

AD7730 : Converter failed.

CAPT : One or more digital sensor(s) are not responding (sensor power supply or connection(s) defective).

N SERI : The serial number of a digital sensor is not valid or the digital sensor setting is not valid.

5.2. Error messages during configuration or calibration (on the operator guide)

" **ERROR 1**" :   Division incorrect.
" **ERROR 2**" :   Division other than 1/2/5.
" **ERROR 3**" :   Range greater than 500 tonnes.
" **ERROR 4**" :   Display capacity exceeded.
" **ERROR 5**" :   Over 6000 divisions.
" **ERROR 6**" :   Range W1 incompatible with W2 (W1 must be less than W2)
" **ERROR 7**" :   Division W1 incompatible with W2 (e2 must follow e1)

" **ERROR Z**" :   Error during zero scale calibration phase.
" **ERROR G**" :   Error during gain calibration phase
" **ERROR R**" :   Error during gain calibration phase, input range too low.
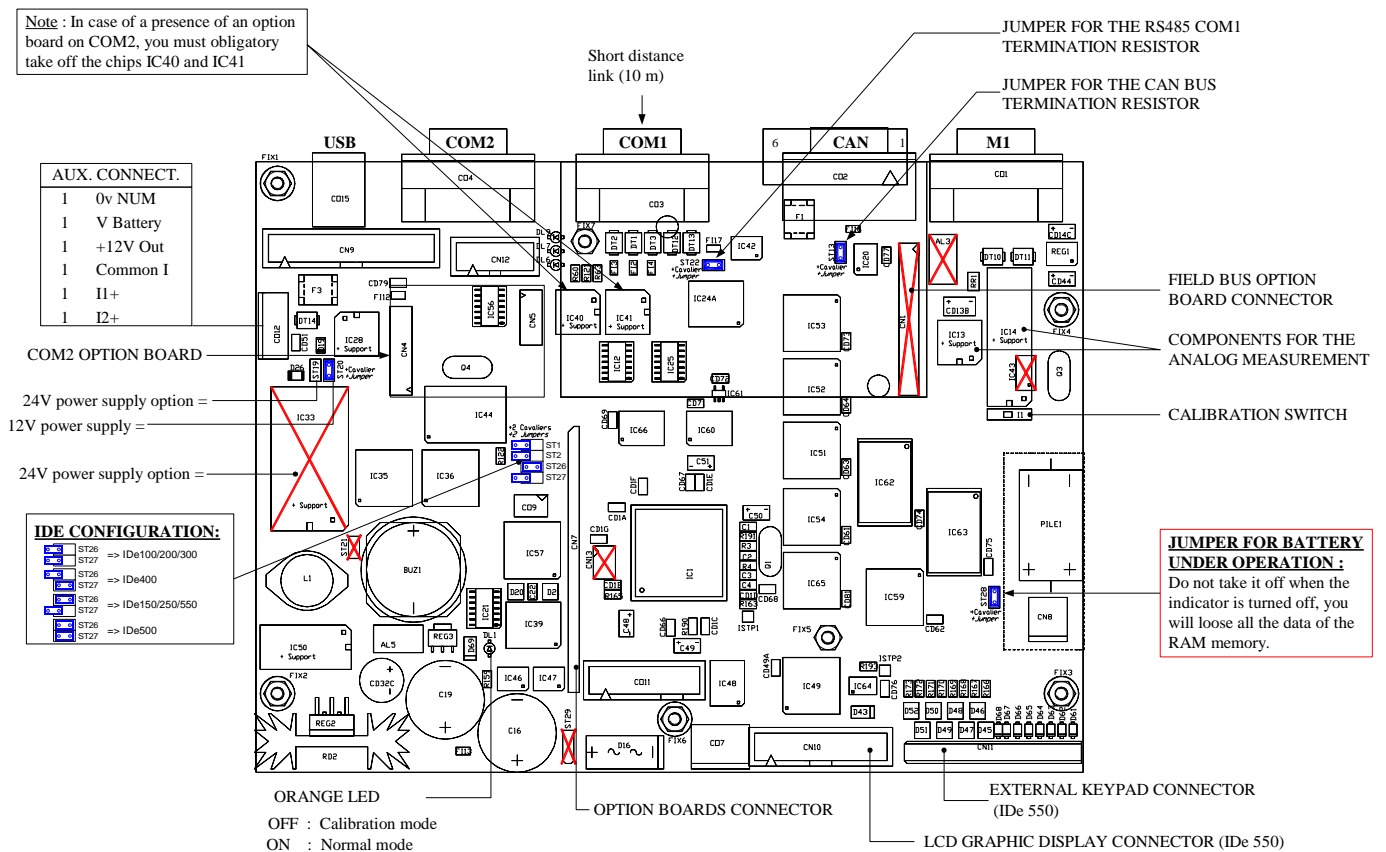" **ERROR U**" :   Gravity adjustment incorrect.

" **ERROR a**" :   Type of readout unit other than IDé 400/500.
" **ERROR b**" :   Type of sensor other than 0, 1 or 2.
" **ERROR c**" :   Number of sensors not 1 to 12.
" **ERROR d**" :   Number of measurements per second not 06 to 99.
" **ERROR e**" :   Multi-scale parameter not 0 or 1.
" **ERROR f**" :   Automatic W2/W1 switching parameter not 0 or 1.
" **ERROR h**" :   Dial scale or inclinometer parameter not 0 / 1 / 2.
" **ERROR i**" :   Legal metrology parameter not 0 or 1.
" **ERROR j**" :   Immobility parameter not 0,5E to 3,0E.
" **ERROR k**" :   Zero follower parameter not 0 or 1.
" **ERROR l**" :   NET weighing parameter not 0 / 1 / 2.
" **ERROR m**" :   Zero on power up parameter not 0 or 1.
" **ERROR n**" :   Automatic zero parameter not 0 or 1.

" **ERROR01**" :   Memory card locked (lock button on side).
" **ERROR02**" :   Memory card not detected.
" **ERROR03**" :   Communication problem with memory card.
" **ERROR04**" :   Communication problem with memory card.
" **ERROR05**" :   Communication problem with memory card.
" **ERROR06**" :   Memory card not formatted. Initialise it.
" **ERROR07**" :   Communication problem with memory card.
" **ERROR08**" :   Communication problem with memory card.
" **ERROR09**" :   Communication problem with memory card.
" **ERROR10**" :   Communication problem with memory card.
" **ERROR11**" :   Communication problem with memory card.
" **ERROR12**" :   Backup of metrological parameters not found on memory card.
" **ERROR13**" :   Backup of application parameters not found on memory card.
" **ERROR14**" :   Backup file not found on memory card.
" **ERROR15**" :   Data on memory card not compatible with the software
" **ERROR16**" :   Data protected.
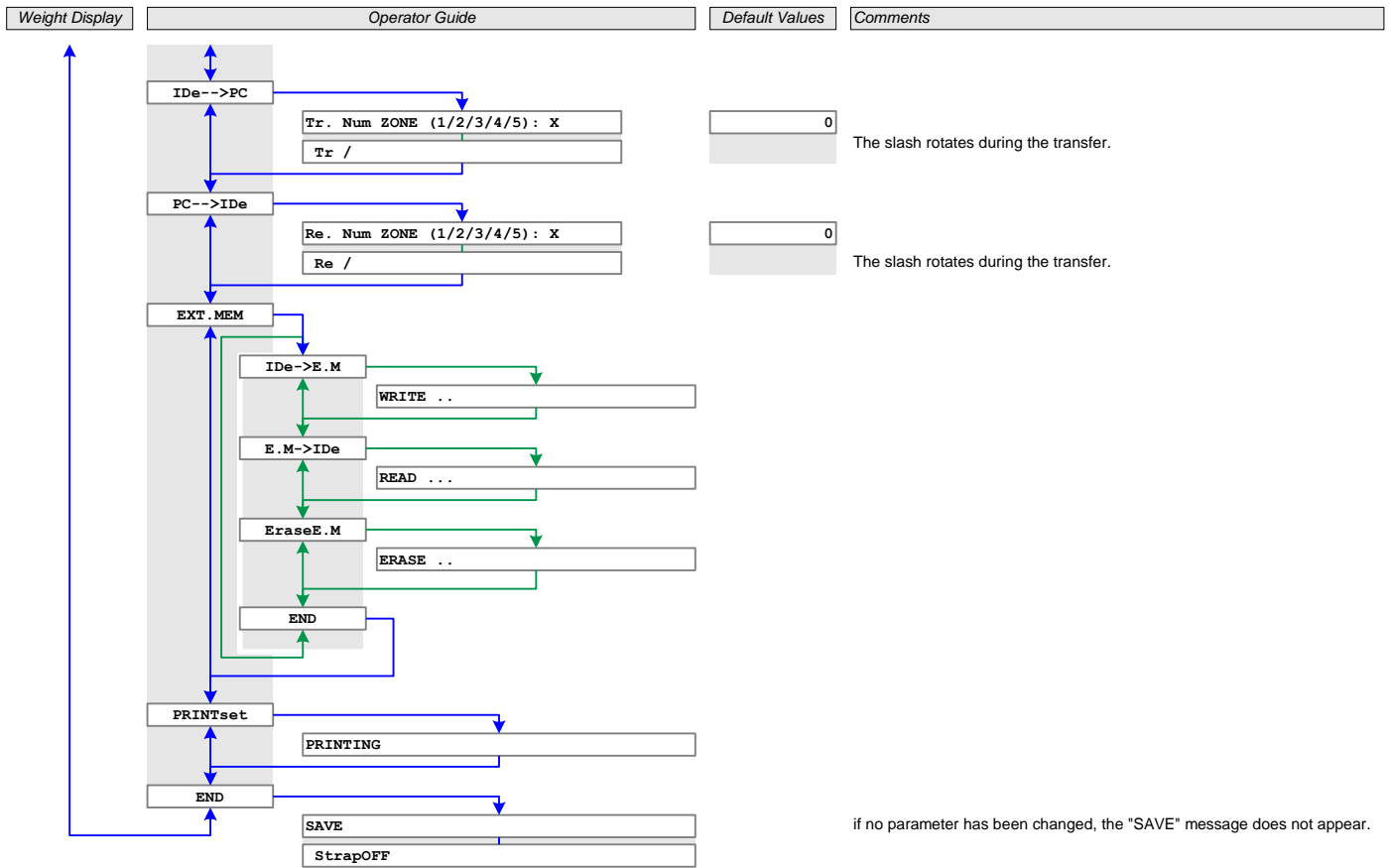
6. APPENDIX

6.1. Connection pinouts

Connector ref. / Pin number	M1	MASTER CAN	COM1 RS232	COM1 RS485	Passive bus	COM2 Options Passive / active bus	COM2 Options RS232	COM2 Options RS485	AUX. connect.
1	⏚	⏚	⏚	⏚	⏚	⏚	⏚	⏚	0V
2	N.U.	N.U.	Rx	N.U.	N.U.	N.U.	Rx	N.U.	V Battery
3	A-	CAN_H	Tx	N.U.	N.U.	N.U.	Tx	N.U.	+12Vout
4	M-	CAN_L	N.U.	RxTx+	R+	R+	N.U.	Rx+	Common E
5	A+	V+	N.U.	RxTx -	R-	R-	N.U.	Rx-	E1+
6	M+	0V	DTR	N.U.	N.U.	N.U.	DTR	N.U.	E2+
7	R-		0V	0V	N.U.	0V_Iso	0V_Iso	0V_Iso	
8	R+		N.U.	N.U.	T+	T+	N.U.	Tx+	
9	N.U.		N.U.	N.U.	T-	T-	N.U.	Tx-	

6.2. IDé board layout

Note : In case of a presence of an option board on COM2, you must obligatory take off the chips IC40 and IC41

Short distance link (10 m)

JUMPER FOR THE RS485 COM1 TERMINATION RESISTOR

JUMPER FOR THE CAN BUS TERMINATION RESISTOR

AUX. CONNECT.	
1	0v NUM
1	V Battery
1	+12V Out
1	Common I
1	I1+
1	I2+

FIELD BUS OPTION BOARD CONNECTOR

COMPONENTS FOR THE ANALOG MEASUREMENT

COM2 OPTION BOARD

CALIBRATION SWITCH

24V power supply option =
12V power supply =
24V power supply option =

IDE CONFIGURATION:
ST26 ST27 => IDe100/200/300
ST26 ST27 => IDe400
ST26 ST27 => IDe150/250/550
ST26 ST27 => IDe500

JUMPER FOR BATTERY UNDER OPERATION : Do not take it off when the indicator is turned off, you will loose all the data of the RAM memory.

ORANGE LED
OFF : Calibration mode
ON : Normal mode

OPTION BOARDS CONNECTOR

EXTERNAL KEYPAD CONNECTOR (IDe 550)

LCD GRAPHIC DISPLAY CONNECTOR (IDe 550)

7. SUMMARY OF SETTINGS MENU

Weight Display	Operator Guide	Default Values	Comments
1 Regl	C : X		The digital load cell N° X does not respond
1 Regl	ENGLISH		The messages of the menu are in english
	DEUTSCH		The messages of the menu are in german
	FRANCAIS		The messages of the menu are in french
1 Regl	CALIBRAT		
	SENS No		If digital load cells
	LOAD CELL NUMBER (01 to 12)	53	
	NEW LOAD CELL NB (01 to 12)	00	
	Wait 15s		
	OP MODE		
	INDICATOR TYPE (1/2/3/4/5) : XX	04 ou 05	
	SENSOR TYPE 0=An 1=Dig 2=Candy: X	0	
	SENSOR NUMBER ... (1 to 12) : XX	01	
	INPUT RANGE (mV) 1=10 2=20 3=40: X	2	
	MESUREMENT/SECOND X*20 (1to9): X	3	
	MULTI. RANGE (0 = No 1 = Yes) : X	0	
	AUTO SWITCH W2/W1 (0=N 1=Y) : X	0	
	E2 1=ROMAINE 2=INCLINO 0=NOTH.: X	0	
	REGULATED MODE (0=No 1=Yes) : X	1	
	DSD Number :XXXXXX	000001	
	METR.PAR		
	RANGE W1 (1kg to 500000kg) : XXXXXX	000003	
	DIVISION W1(max 500,000kg) : XXX,XXX	000.001	
	RANGE W2 (1kg to 500000kg) : XXXXXX	000003	If parameter "MULTI. RANGE" = 1
	DIVISION W2(max 500,000kg) : XXX,XXX	000.001	If parameter "MULTI. RANGE" = 1
	IMMOBILITY (0,2d a 3,0d) : X,X	1.0	
	NB OF IMMOBILE MEASM.(0..9): X	4	
	NUMERIC FILTER (XX average): XX	30	
	NET WEIGHING (0=N 1=Y 2=PT): X	1	
	FOLLOWING ZERO (0=No 1=Yes): X	0	
	AUTOMAT. ZERO (0=No 1=Yes) : X	0	
	ZERO POWER ON (0=No 1=Yes) : X	0	
	SET ZERO		
	Calibrat		
	SET GAIN		
	Calibration weight value(kg): XXX,XX	003,00	Enter the standard mass value (kg) ex : 3kg
	GRAVITY		
	Calibration gravity (G): X,XXXXX	9,81000	
	Utilization gravity (G) : X,XXXXX	9,81000	
	DisANGLE		If digital load cells
	ANGLEcor		If digital load cells
	LOAD CELL NUMBER (01 to 12): XX	00	
	Adjustment with number of pts : -XX	-00	CE : passage from "+" to "-"
	Wait 15s		
	EndSLOPE		
	Adjustment with tenth of div. : -XX	-00	CE : passage from "+" to "-"

Weight Display	Operator Guide	Default Values	Comments

IDe-->PC

Tr. Num ZONE (1/2/3/4/5): X — `0`

Tr / — The slash rotates during the transfer.

PC-->IDe

Re. Num ZONE (1/2/3/4/5): X — `0`

Re / — The slash rotates during the transfer.

EXT.MEM

IDe->E.M

WRITE ..

E.M->IDe

READ ...

EraseE.M

ERASE ..

END

PRINTset

PRINTING

END

SAVE — if no parameter has been changed, the "SAVE" message does not appear.

StrapOFF

MEMO: