# WEIGHT INDICATOR

# WIDRA W90

**WIDRA SPRL**
**Rue Z Gramme, 26**
**Zoning « Les Plennesses «**
**4821 ANDRIMONT**

## Function keys


when this key is pressed, the display registers "0", which frees one of the stored entry weights by introducing the corresponding sequence number.

**N.B.**

All that you need to do is to log in **9999 + E**

in order to have a revolving memory print-out

| No | No suite | Kg |
|---|---|---|
| 1 | 0 | 0 |
| 2 | 0 | 0 |
| 3 | 0 | 0 |
| 4 | 0 | 0 |
| 5 | 0 | 0 |
| 6 | 0 | 0 |
| 7 | 0 | 0 |
| 8 | 0 | 0 |
| 9 | 0 | 0 |
| 10 | 0 | 0 |
| 11 | 0 | 0 |
| 12 | 0 | 0 |
| 13 | 0 | 0 |
| 14 | 0 | 0 |
| 15 | 0 | 0 |
| 16 | 0 | 0 |
| 17 | 0 | 0 |
| 18 | 0 | 0 |
| 19 | 0 | 0 |
| 20 | 0 | 0 |
| 21 | 0 | 0 |
| 22 | 0 | 0 |
| 23 | 0 | 0 |
| 24 | 0 | 0 |
| 25 | 0 | 0 |
| 26 | 0 | 0 |
| 27 | 0 | 0 |
| 28 | 0 | 0 |
| 29 | 0 | 0 |
| 30 | 0 | 0 |


for input weighing


for output weighing


for single weighing at the time of weighing on exit


for alterning the serial number and clearing input weighing memories

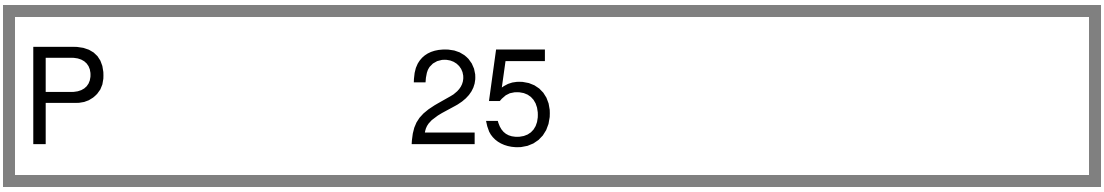
# WEIGHBRIDGE WEIGHING

F1 **Weighing on entry**

When the truck enters into the factory it drives on the plateform. Place a ticket into the printer.

press key F1

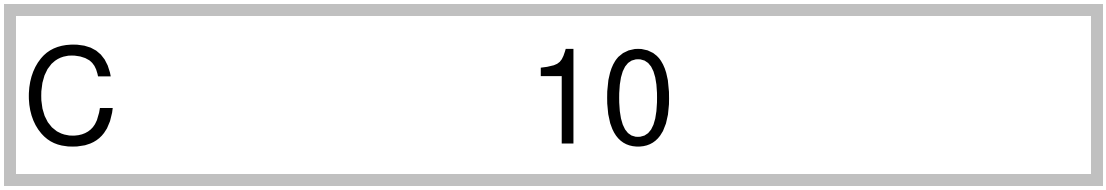
On the display go can see the last produkt number preceded by **P**




If the proposed number is correct : press E

If it is not correct : enter a new number + E

On the display you can now see the last customer number preceded by **C**.




E

If the number proposed is correct : press

.

If it is not correct : enter a new number +. 


The screen registers the weight and proceeds with the entry print-out. When the weight is **stable** and stores it in one of the 30 revolving memories under the serial n°. This memory will be cleared at the output weighing.

**********

## INPUT

| | |
|---|---|
| DATE | 25/09/92 |
| TIME | 10:04 |
| SERIAL N | 6 |
| PRODUCT CODE | 25 |
| CUSTOMER CODE | 10 |
| WEIGHT | **47100 "kg"** |

**********BASCULE WIDRA Andrimont 087/350772**********

**N.B.**

If all 30 memories are full, further input weighing on entry is **impossible.** The screen registers horizontal dashes during 1" when you press 


In that case, you need to :

- proceed with weighing output

- cancel a memory, using key 


- cancel all the memories using the sequence number, key. 

## F2 Weighing output

If a lorry which was weighed on entry returns to be weighed on exit.

Press key F2

The screen displays "**0**" preceded by the letter **S** (exit)

| S | 0 |
|---|---|

Take the weighing ticket printed at the time of weighing on entry, note the serial number and

- enter the ticket in the printer

- enter the serial number + E

**********

| **INPUT** | | **OUTPUT** |
|---|---|---|
| DATE | 25/09/92 | 25/09/92 |
| TIME | 10:04 | 10 :32 |
| SERIAL N | 6 | 6 |
| PRODUCT CODE | 25 | |
| CUSTOMER CODE | 10 | |
| WEIGHT | **47100 ”kg”** | **51000 ”kg”** |

**********BASCULE WIDRA Andrimont 087/350 772**********

The printer will print out the datas of the weighing on the same ticket, but in the righ-hand column, and will release an input memory to enable a further input weighing operation with this clerined memory.

If the serial number for the weighing on entry does not match with the one of the ouput weighing, the weighing operator
has introduced the wrong serial number.

All weights are followed by the "**kg**" symbol in inverted commas, indicating that the weights have indeed been recorded the help of a weighing machine.

## Repeat of output printing on entry printed ticket

Press 


The display screen indicates **S**, follows by **0** without the kg symbol.

Press 


The screen displays **T** followed by **0** with the flashing kg symbol.

Enter tare weight + **E** and the printer prints out particulars of the weighing on exit, indicating the symbol "**Pt**" to show that the tare was entered manually (keyboard).

The symbol kg without the inverted commas also denotes that the weights are not those recorded on the machine

## F3 Single weighing operation

Manual introduction of the tare data enables a lorry to be weighed on exit without having been weighed on entry.

Press Key. F 3

The screen displays « **0** » kg preceded by the letter **« t »** tare


Enter the correct knowned tara value + E

The printer will print out the weighing datas

**********

**OUTPUT**

| | | | |
|---|---|---|---|
| DATE | 25/09/92 | | |
| TIME | 10:04 | | |
| SERIAL N | 6 | | |
| WEIGHT | | 47100 | ”kg” |
| KNOWN TARA | ‘’Pt ’’ | 1000 | kg |
| **NET WEIGHT** | | **3710** | **kg** |

********** BASCULE WIDRA Andrimont 087/350772 **********

**N.B.**

The kg symbol for the tare and the net weight is without the inverted commas, which means that the tare particulars were introduced manually.

The "**PT**" symbol also registers this.

## F4 Serial number

This enables you to visualize or modify the serial number for the next weighing operation.

Press key F4

The display screen indicates the next serial number.

1

You can now : a) confirm this number by **E**

b) alter this number + **E**, which will cancel all entry weights data stored in the memories.

| No | Serial n° | Kg |
|---|---|---|
| 1 | 0 | 0 |
| 2 | 0 | 0 |
| 3 | 0 | 0 |
| 4 | 0 | 0 |
| 5 | 0 | 0 |
| 6 | 0 | 0 |
| 7 | 0 | 0 |
| 8 | 0 | 0 |
| 9 | 0 | 0 |
| 10 | 0 | 0 |
| 11 | 0 | 0 |
| 12 | 0 | 0 |
| 13 | 0 | 0 |
| 14 | 0 | 0 |
| 15 | 0 | 0 |
| 16 | 0 | 0 |
| 17 | 0 | 0 |
| 18 | 0 | 0 |
| 19 | 0 | 0 |
| 20 | 0 | 0 |
| 21 | 0 | 0 |
| 22 | 0 | 0 |
| 23 | 0 | 0 |
| 24 | 0 | 0 |
| 25 | 0 | 0 |
| 26 | 0 | 0 |
| 27 | 0 | 0 |
| 28 | 0 | 0 |
| 29 | 0 | 0 |
| 30 | 0 | 0 |

# Special functions

## Date - time

Enables you to djust the date and time.

Press key 


The display screen indicates the stored date preceded by **d** (date)


You can now :

a) confirm the data with **E**

b) correct it + **E**

The screen will display the stored time preceded by **H**


You can now :

a) confirm the time with **E**

b) correct it + **E**

## Print-out without date - time particulars

Enables you to make print-outs without date and time particulars.

This function is cancelled once services are restored following a power out.

Press. 


The display screen will indicate the stored date.

Instaed of entering the date, enter **O + E**.

## Memory-stored data on weighing on entry

Enables you to print out memory-stored data on input weighing.

Feed an A4 sheet of paper into the printer.

Press **M + 9999 + E.**

The printer will print out memory-stored weighing data.

| No | Serial n° | Kg |
|---|---|---|
| 1 | 0 | 0 |
| 2 | 0 | 0 |
| 3 | 0 | 0 |
| 4 | 0 | 0 |
| 5 | 0 | 0 |
| 6 | 0 | 0 |
| 7 | 0 | 0 |
| 8 | 0 | 0 |
| 9 | 0 | 0 |
| 10 | 0 | 0 |
| 11 | 0 | 0 |
| 12 | 0 | 0 |
| 13 | 0 | 0 |
| 14 | 0 | 0 |
| 15 | 0 | 0 |
| 16 | 0 | 0 |
| 17 | 0 | 0 |
| 18 | 0 | 0 |
| 19 | 0 | 0 |
| 20 | 0 | 0 |
| 21 | 0 | 0 |
| 22 | 0 | 0 |
| 23 | 0 | 0 |
| 24 | 0 | 0 |
| 25 | 0 | 0 |
| 26 | 0 | 0 |
| 27 | 0 | 0 |
| 28 | 0 | 0 |
| 29 | 0 | 0 |
| 30 | 0 | 0 |

## Deleting 1 memory

If one or more of the memories printed is no longer in use for ex. the truck left the factory without weighing it is possible to liberate this memory like this :

press **M** + serial number to delete in the memory + **E**

Ex: **M** + **126** + **E** :

| No | Serial N° | Kg |
|---|---|---|
| 1 | 125 | 1900 |
| 2 | 0 | 0 |
| 3 | 127 | 4020 |
| 4 | 0 | 0 |
| 5 | 0 | 0 |
| 6 | 0 | 0 |
| 7 | 0 | 0 |
| 8 | 0 | 0 |
| 9 | 0 | 0 |
| 10 | 0 | 0 |
| 11 | 0 | 0 |
| 12 | 0 | 0 |
| 13 | 0 | 0 |
| 14 | 0 | 0 |
| 15 | 0 | 0 |
| 16 | 0 | 0 |
| 17 | 0 | 0 |
| 18 | 0 | 0 |
| 19 | 0 | 0 |
| 20 | 0 | 0 |
| 21 | 0 | 0 |
| 22 | 0 | 0 |
| 23 | 0 | 0 |
| 24 | 0 | 0 |
| 25 | 0 | 0 |
| 26 | 0 | 0 |
| 27 | 0 | 0 |
| 28 | 0 | 0 |
| 29 | 0 | 0 |
| 30 | 0 | 0 |

If all the memories must be deleted press F4 + 1 + E

(serail number modification).

| No | Serial n° | Kg |
|---|---|---|
| 1 | 0 | 0 |
| 2 | 0 | 0 |
| 3 | 0 | 0 |
| 4 | 0 | 0 |
| 5 | 0 | 0 |
| 6 | 0 | 0 |
| 7 | 0 | 0 |
| 8 | 0 | 0 |
| 9 | 0 | 0 |
| 10 | 0 | 0 |
| 11 | 0 | 0 |
| 12 | 0 | 0 |
| 13 | 0 | 0 |
| 14 | 0 | 0 |
| 15 | 0 | 0 |
| 16 | 0 | 0 |
| 17 | 0 | 0 |
| 18 | 0 | 0 |
| 19 | 0 | 0 |
| 20 | 0 | 0 |
| 21 | 0 | 0 |
| 22 | 0 | 0 |
| 23 | 0 | 0 |
| 24 | 0 | 0 |
| 25 | 0 | 0 |
| 26 | 0 | 0 |
| 27 | 0 | 0 |
| 28 | 0 | 0 |
| 29 | 0 | 0 |
| 30 | 0 | 0 |

# 9O WEIGHT INDICATOR

**N.B.**

The new weighing machine in your possession is a precision instrument which must be treated accordingly. In order to ensure probleme-free use over a period of years, you are advised to observe the pointers listed in the "maintenance"section.

This machine has been precision-regulated. You are requested to keep calibration values in a safe place so that you can pass then on to our technician at the time the machine is serviced, or in the event of a problem.

At 220 volts, the indicator performs a test of the display panel and indicates the following three (3) values before displaying particulars of the weight :

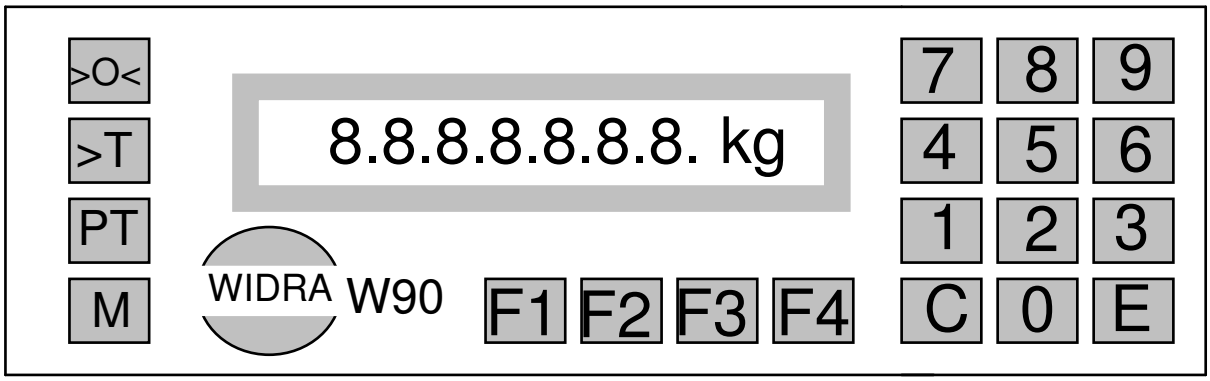
| | |
|---|---|
| 1103 | n° of installated program (short while) |
| 0-1-2- --- | |
| t 4752 kg | platform dead weight |
| o 4 kg | zero drift |

If the indicator fails to register "**0**" with nothing on the weighing table, press key and it will return to zero if the weight is within the -1% to 3% of capacity zero.

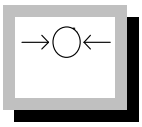
->O<-

## Front view, consisting of :

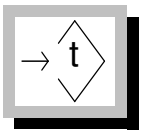
20 keys




**Left**



when this key is pressed and when 1 gross weight is displayed the indicator is set at zero if the indication or accumulation is between + 3% and -1% of the bottom of the scale. The automatic tracking zero will remain at zero if the load is less than 0,4 of a step.



when this key is pressed when the weight on display is stable the positive weight displayed is regarded as a tare and is deducted from the weight shown by the scales and :

deletion of the symbol B

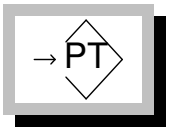
appearance of the symbol NET

appearance of the symbol 


when this key is pressed once again, the tare is set at zero,
the gross weight is displayed on the indicator and :

appearance of the symbol B

deletion of the other symbols




when this key is pressed, the displayed weight becomes 0 and the kg symbol flashes, enabling you to :

a) press K "E" to get out of this function mode and redisplay the gross weight

b) enter a tare + E, using the keyboard. This will be deducted from the weight originally displayed with :

deletion of the symbol B

appearance of the symbol NET

appearance of the symbol 

When this key is pressed once again, the displayed weight becomes 0 and the kg symbol flashes, enabling operation (**a**) or (**b**) as described above to be performed.

function key

**Right**

for digital value entry

press this key to cancel keyboard entry

press this key to confirm keyboard entry

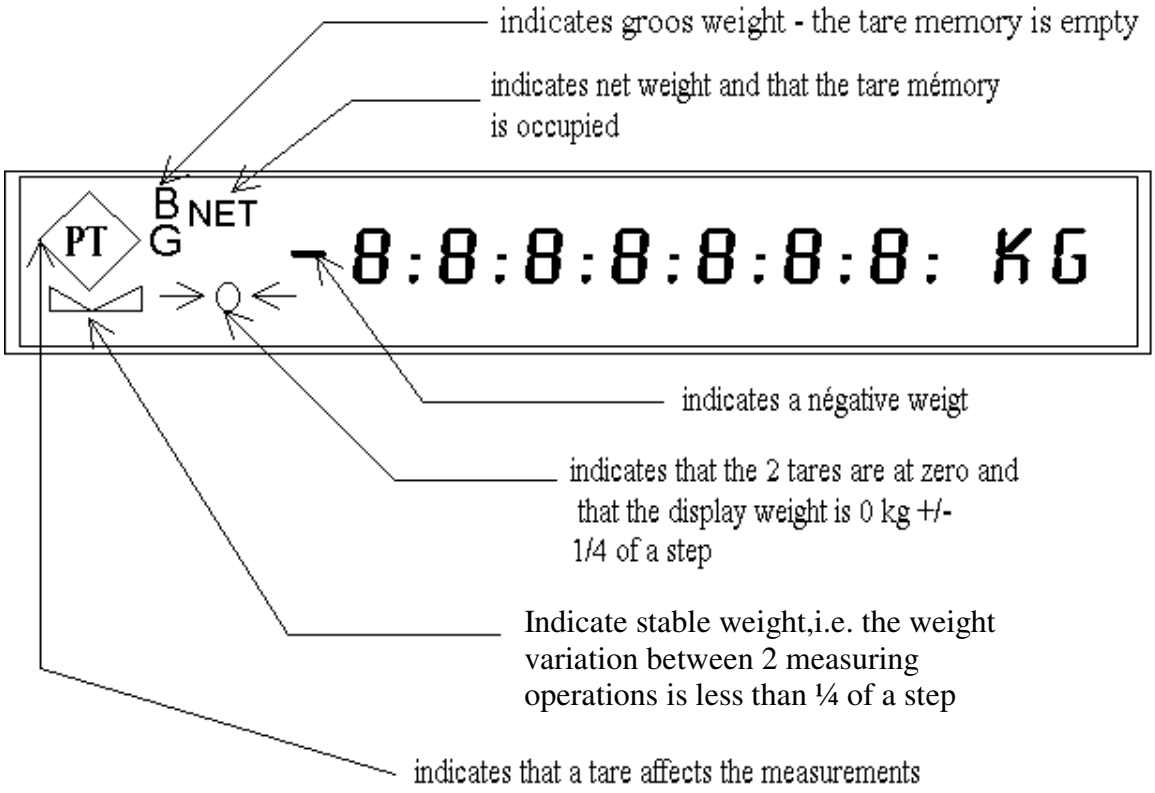
function key

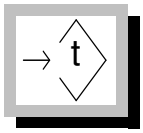
function key

function key

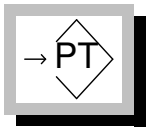
function key

## Green fluorescent display




= 1 automatic tare




= 1 manual (keyboard) tare

## Rear view

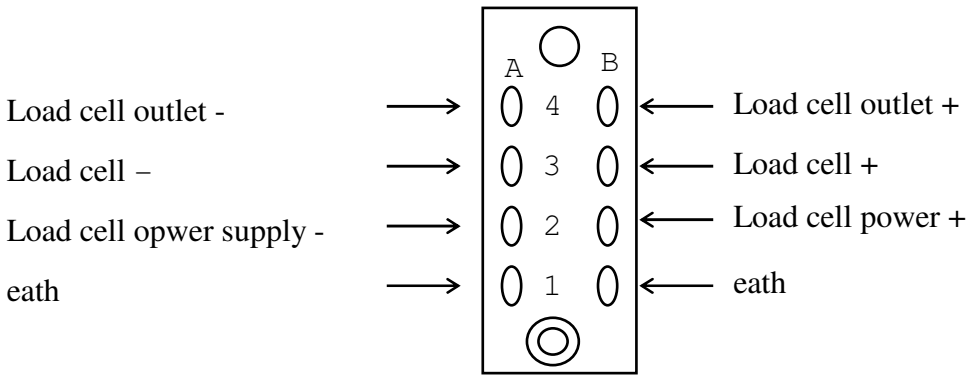
comprises :

**1 sector connector** - with fuse and filter

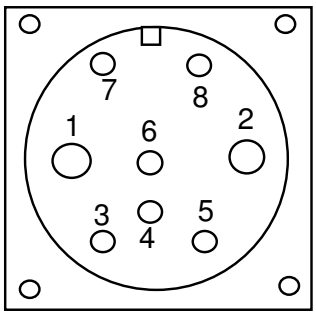
Power supply must be 220 volts + max. 10%, - 15% with earth

Both must be very specific to the weighing system (most important).
The 220 volt power supply must be connected to the same source and the earth must be common to all appliances which run into the weighing system.

## Load cell connector Siemens

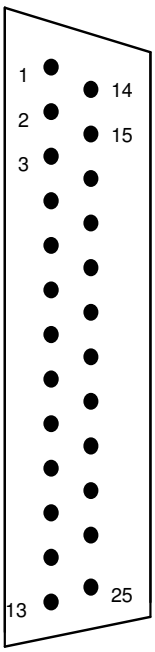


# Jaecger connector




| | |
|---|---|
| 1: Earth | 5: Power + |
| 2: Eearth | 6: Signal + |
| 3: Power supply - | 7: Sense - |
| 4: Signal - | 8: Sense + |

1 CENTRONIX connection (parallel) is used with 1 printer by means of a 25 transmitting cable type P.C.



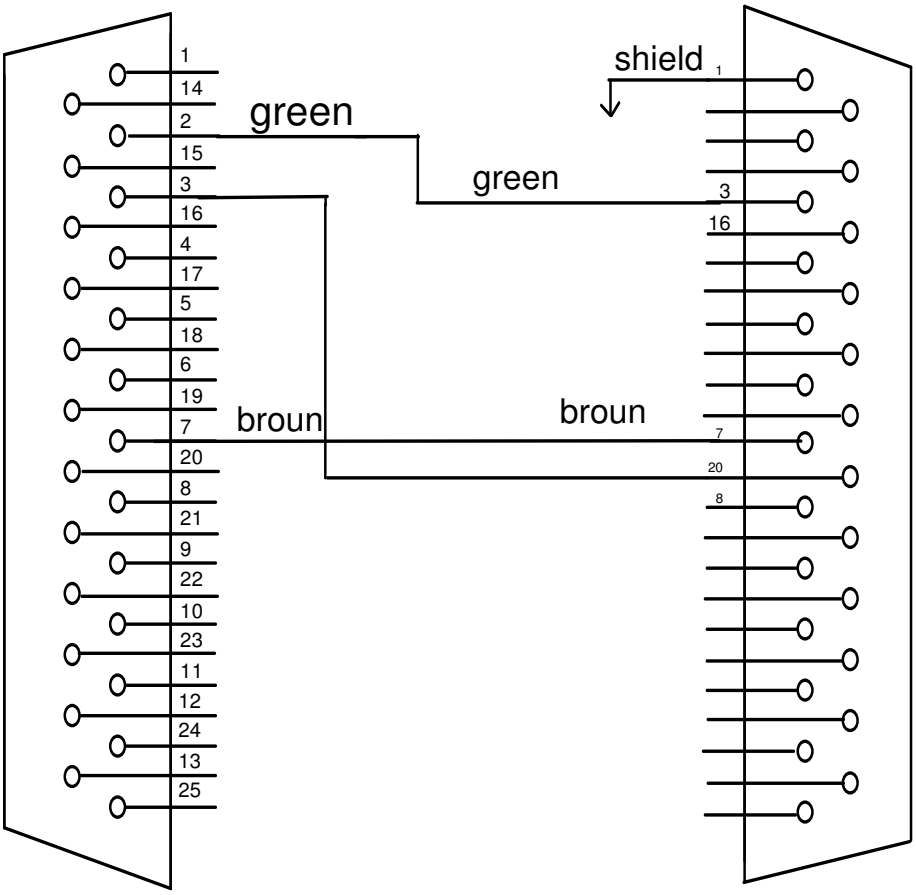

Pin définition

| | |
|---|---|
| Pin 1 | - strobe |
| Pin 2 | + data bit 0 |
| Pin 3 | + data bit 1 |
| Pin 4 | + data bit 2 |
| Pin 5 | + data bit 3 |
| Pin 6 | + data bit 4 |
| Pin 7 | + data bit 5 |
| Pin 8 | + data bit 6 |
| Pin 9 | + data bit 7 |
| Pin 10 | + acknowledge |
| Pin 11 | + busy |
| Pin 12 | + p.end ( out of paper ) |
| Pin 13 | + select |
| Pin 14 | - auto feed |
| Pin 15 | - error |
| Pin 16 | - initialize printer |
| Pin 17 | - select imput |
| Pin 18-19 | - gound |

RS 232 C connection is used with a printer by means of a triphase cable.

**W90 -COM2** **PRINTER**

DB 25/M DB25/M




W90 Indicator Serial Printer

RS 422/485 connection to printer is type 2 or 4 threads.

| **Indicator** | | **Printer** |
|---|---|---|
| **Pin 6 -** | **Tx + *** | |
| **Pin 18 -** | **Tx - *** | |
| **Pin 11 -** | **Rx +** | |
| **Pin 23 -** | **Rx -** | |

folowing periferal
RS 422/485-232

| **Indicator** | | **P.C.** | |
|---|---|---|---|
| Pin 2 | T x D | Pin 3 | R x D |
| Pin 3 | R x D | Pin 2 | T x D |
| Pin 7 | G N D | Pin 7 | G N D |

Connection of 2 threads with pins *

RS 232 C connection to a P.C.

| **Indicator** | | **P.C** | |
|---|---|---|---|
| Pin 2 | T x D | Pin 3 | R x D |
| Pin 3 | R x D | Pin 2 | T x D |
| Pin 7 | G N D | Pin 7 | G N D |

# COMMUNICATION

## General format

Message from PC STX 01 XX ETX CS

Reply to an enquiry STX 01 SID +012250. ETX CS

Example < 02 > 0 1 D I <03> <13d>

STX character <02>

01 Indicator N° : to be placed in the configuration during calibration in position I (from 00 to 99)

XX 2 letters representing an enquiry or action :

| | |
|---|---|
| DI | calls for display-registered value |
| DV | calls for display-registered value NOT rounded off |
| PB | calls fro gross weight |
| PT | calls for tare value |
| PN | calls for net weight |
| TA | fixes a tare (detaring) |
| DE | deletes tare |
| ZE | automatic zero tacking |

| | |
|---|---|
| ETX | Character <03> |
| + | + or - sign |
| . | decimal point always present |
| SID | S if stable, I if unstable, D if satured |
| CS | XOR of all message bytes, including STX and ETX |

**Note**

All values are rounded off to the nearest step except DV

Response time is no more than 0,4 seconds. Message response is cancelled in the event of a saturated display.

8 bit + 1 stop bit without parity, baud rate selectable on 1200 to 9600 baud by dil switch.

**DIL SWITCH** (in the indicator)

| **SW1** | **SW2** | |
|---|---|---|
| ON | ON | 1200baud |
| ON | OFF | 2400 baud |
| OFF | ON | 4800 baud |
| OFF | OFF | 9600 baud |

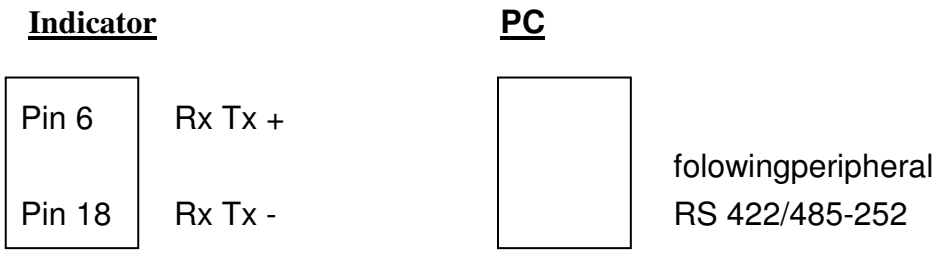
**SW3** no action

**SW4**

| | |
|---|---|
| ON | automatic zero tracking |
| OFF | no automatic zero tracking |

Multi-station **RS 485** connection to a P.C.

Compulsory 2 wire connection




**N.B.** in machine programming, a different number needs to be given to each network machine.

## Repeater

## Electromagnetic type

connection idem printer RS 232/422/485

## L.E.D. (OP5)type

Standard B.C.D. output 3 wire cable connection (3 X 0,5 = max.35 m)

Round connector

| | |
|---|---|
| Pin 1 | + 5 v |
| Pin 2 | date |
| Pin 3 | clock |
| Pin 4 | free |

# Installation of connection lines

## 1. Load cell

Use type LP/LIYMCY 7 x 0,75 mm².
The protective cable sheathing ensures major inensitivity to radiated disturbance.
Lenght without amplifier : 100 metres.

## 2. R.S. 232

This type of connection is permitted up to maximum distances of 100 metres and, in many cases, less than 100 metres; depending on the configuration (standard CCITT 24 v, maximum 15 metres!).
A single test at the customer'ss expense will be enough to determine the reliability of such a connection at distances of above 15 metres.

Transmission cable must be type TPVP, twisted and provided with protective sheating (per pair).

## 3. RS 422/485

Transmission cable still type TPVP, twisted and provided with protective sheating (per pair).

Beyond 100 metres, provision will need to be made for the inclusion of a line amplifier (repeater).

**N.B.**

Widra can supply you with these cables and advise on the approximative lenghts required.

# 4. Cable installation

Cables must be correctly installed. Care must be taken to steer clear of any sources of interference, such a neon lighting tubes, transformers, engines lift etc...

All connections must be made inside splice boxes, which must remain accessible at all times.

# 5. Essential precautions

Many data-processing problems are due to variations in voltage and micro power cuts.
Like all computerized systems, weight indicators are sensitive to this type of occurence.
In the event of a voltage variation of +/- 10%, we warmly advice you to connect up the whole network providing power from the computer and the indicator to voltage regulators with special reserved lines.

If you are using a P.C., it is essential to provide a NO BREAK system for the entire installation, so as to safeguard date during operation. In any case, you will need to provide a top quality common earth.

WIDRA accepts no liability for any abnormal or excessive electrical situations which may occur.

# Resetting at zero

If the ->O<- button fails to reset the machine at zero with nothing on the weighing table, zero resetting can be achieved by doing the following :

- recording the displayed weight data

- cutting the power supply and then restoring it

- entering code " " 5 5 while the figures are being run off

- the display screen's indicating the memorized tare

- increasing or decreasing this displayed weight value + E

**N.B.**

This is not the normal procedure : please warn us in time so that me may take the necessary action.

# Error message

The following error messages are displayed in the event of abnormal functioning :

| | |
|---|---|
| Err 101 | Ram is not valid or calibration has not been carried out.<br>In that case, the system will continue blocked |
| Err 201 | The bottom of the scale divided by the step is > 4 000 |
| Err 300 | The converter is owerloaded |
| Err 101 | Converter is demanged |

# Table of contents