

# McHUGH

C O M P O N E N T S

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## Load Cells & Accessories

2011



## PTM Srl.

PTM Srl is a market leader in weighing technologies and systems. They have been designing and producing innovative systems for over thirty years and McHugh Components Ltd are proud to bring these products to the Irish market.

The programme of Electronic Weight Indicators, Load Cells and Accessories on offer is extensive and boasts the following features:

- Higher quality, stronger load cells. All load cells are manufactured using tempered stainless and alloy steel to allow greater strength and flexibility.
- By using a unique manufacturing process which heats the components and adhesives before assembly, PTM load cells have a stronger resistance, higher signal quality and longer working life than other products on the market. (Many manufacturers glue electronic components into cells, which reduces the life of the cell.)
- PTM systems have gold contacts as standard which facilitates a superior transmission of signal.
- PTM systems use military metal connectors as standard.
- Monitors have an additional third connecting port as standard which allows for the addition of a remote display unit or portable printer as needed by the operator.
- PTM have developed a high quality quick connect junction box which is the Market leader in regard to installation and ease of use.
- PTM test 100% of the products that they produce. They also carry out rigorous vibration tests on the range of monitors they supply.

## HL10 & HL15

Weighing indicators specifically developed for systems with minimal overall dimensions. Highly suited to and practical to install on Tractors.



Specifically developed to carry out weighing operations on systems where the space available to install a scale is limited, the **HL10** and **HL15** weighing indicators have very compact overall dimensions and are very easy to use.

Standard features include:

- A high luminescence, high visibility 6 digit LED display.
- A highly practical 16 function keypad control.
- Connectors with Golden contacts.
- Protection against power supply inversions or overcharge by means of an auto reset fuse.

**Both models** allow the operator to control the function of the partial and total weights of any components to be loaded or unloaded.

In addition, the **HL15** model allows the operator to set out up to 15 recipes and 20 components according to animal or total weight, with the possibility of changing the name of the recipe itself. It also has an alarm that signals the end of the loading operation, which can be integrated with the weighing computer directly or given by way of an external alarm.

Both models are supplied with a multi language system, warranty control and with the capacity to record and store data relating to any possible overloads.

## HL20, HL25, HL30 & HL50

Weighing computers for loading and unloading operations.



The weighing indicators in this range have been specifically developed to allow the automation of the loading and unloading operations making them both quicker and easier than before.

The series ranges from the basic **HL20** model to the complete **HL50** model and standard features include:

- A unique double display system. A backlit LCD display to visualise information from different functions and a high luminescence, high visibility 5 digit LED display which visualises any weights.
- Aluminium Casing.
- Connectors with Gold contacts.
- Additional port for optional devices.
- Protection against power supply inversion or overcharge by means of an auto reset fuse.

All of the models in the series control the function of Total weight, Partial weight and weight block with the **HL30** and **HL50** models also allowing the operator to programme recipes according to the number of animals, total weight or percentages. It is possible to change the name of the recipe and components, to carry out percentage variations in the total amount to load, to save the accumulations of the loaded quantities and recalculate the quantities of the components to load.

All models can be connected to different types of remote displays, remote controls, printers and other optional devices and come supplied with a multi language system, warranty control and capacity to record and store data from any possible overloads that may occur with the system.

## HL10 - Weighing System with Partial and Total Weight Functions

Equipped with a large bright 6 digit LED display and a comprehensive 16-function keypad, this weighing indicator controls the partial and total weight of any components to be loaded or unloaded.



### Main Features:

- Partial weight and total weight
- 5 Languages
- Zero settings and calibration set up from keyboard

DESCRIPTION	PART NUMBER
Weighing system with partial and total weight functions	HL10

### Technical Specifications:

- High sensitivity membrane keyboard
- ABS Casing
- Protection class: IP65 with plug-in connectors
- Size L 180 x H 95 x W 60 mm
- Weight: 530g
- Display: 6 red LED digits 13 x 9 mm
- Display visible in full sunlight
- Memory: Eeprom, non-volatile
- Available weight divisions: 1 - 2 - 5 - 10 Kg
- Time / Calendar
- Resolution: - 135000 dd
- Operating conditions: -30 to +70°C
- Relative humidity: 95%
- Power supply: 12V dc
- Absorbing power: 5 VA max
- Load cells in parallel connection: Max 10 (350  $\Omega$ )
- Load cell power supply: 5 Vcc
- Margin of reading error:  $\pm 1$  Kg out of 10,000 Kg
- Display data field:  $\pm 99999$  to  $-9999$
- Measuring range:  $\pm 2$  mV to  $\pm 20$  mV
- Conversion speed per second: 10 / sec.
- Protection against radio frequency interferences
- Elimination of power supply interferences
- Signalling of low tension
- Direct control of working tension
- Consumption: 500 mA

### Optional Devices:

- Metallic plate for covering
- Protection steel fender
- Serial output RS232
- AV20/5
- Big display
- Alarm

## HL15 - Weighing System for the Management of 15 Recipes and 20 Components

Equipped with a large bright 6 digit LED display and a comprehensive 16-function keypad, this weighing indicator controls the partial and total weight of any components to be loaded or unloaded. It also allows the operator to set 15 different recipes from 20 different components and is fitted with an internal alarm that signals the end of the loading operation.



### Main Features:

- 15 recipes and 20 components
- Programmed functions of loading and unloading
- Partial weight and total weight
- Possibility to operate per "Total" or per "Number of Animals"
- Accumulations
- 5 Languages
- Alarm on board

DESCRIPTION	PART NUMBER
Weighing system for the management of 15 recipes and 20 components	HL15

### Technical Specifications:

- High sensitivity membrane keyboard
- ABS Casing
- Protection class: IP65 with plug-in connectors
- Size L 180 x H 95 x W 60 mm
- Weight: 530g
- Display: 6 red LED digits 13 x 9 mm
- Display visible in full sunlight
- Memory: Eeprom, non-volatile
- Available weight divisions: 1 - 2 - 5 - 10 Kg
- Time / Calendar
- Resolution: - 135000 dd
- Operating conditions: -30 to +70°C
- Relative humidity: 95%
- Power supply: 12V dc
- Absorbing power: 5 VA max
- Load cells in parallel connection: Max 10 (350 Ω)
- Load cell power supply: 5 Vcc
- Margin of reading error: ± 1 Kg out of 10,000 Kg
- Display data field: ± 99999 to -9999
- Measuring range: ± 2 mV to ± 20 mV
- Conversion speed per second: 10 / sec.
- Protection against radio frequency interferences
- Elimination of power supply interferences
- Signalling of low tension
- Direct control of working tension
- Consumption: 500 mA

### Optional Devices:

- Metallic plate for covering
- Protection steel fender
- Serial output RS232
- AV20/5
- Big display
- Alarm

### Scale Features:

Total / Partial Weight	Programming Component Loading	Programming Unload Number	Number of Recipes	Number of Component Names	Component Names	Programming Recipes	Weight Recalculation
Yes	20	15	15	40	Yes	Animal total weight	No

## HL20 - Weighing System with Partial and Total Weight Functions

This weighing indicator unit is equipped with a unique double display system. The central display is a large, bright 5 digit LED system for weight display. There is also an additional smaller 2-digit display. The second display is a back-lighted LCD system that shows the information about different operations.

Used to control the partial and total weight of any components to be loaded or unloaded, the HL20 records and holds information from the last 5 overloads that have occurred highlighting the maximum overload and the length of time it lasted. There is also an additional port on the unit, which allows for a printer or remote portable device to be added.



### Main Features:

- Big numbers
- Double display
- Partial weight
- Total weight
- Possibility to print
- Zeroing and calibration settleable from software

DESCRIPTION	PART NUMBER
Weight indicator control panel with LED display for up to 12 load cells	HL20

### Technical Specifications:

- High sensitivity membrane keyboard
- Casting aluminium casing
- Protection class: IP68 with plug-in connectors
- Size L 230 x H 180 x W 65 mm
- Weight: 1800 g
- Display: 5 red LED digits 45 x 28 mm  
Backlit LCD (2 Lines, 16 characters per line)
- Display visible in full sunlight
- Memory: Eeprom, non-volatile
- Available weight divisions: 1 - 2 - 5 - 10 Kg
- Time / Calendar
- Resolution: - 135000 dd
- Operating conditions: -20 to +70°C
- Relative humidity: 95%
- Power supply: da 11 a 28V dc
- Absorbing power: 6 VA max
- Load cells in parallel connection: Max 12 (350 Ω)
- Load cell power supply: 5 Vcc
- Margin of reading error: ± 1 Kg out of 10,000 Kg
- Display data field: ± 99999 to -99999
- Measuring range: ± 2 mV to ± 20 mV
- Conversion speed per second: 10 / sec.
- Serial outputs: 1 fixed, 2 optional
- Protection against radio frequency interferences
- Elimination of power supply interferences
- Signalling of low tension
- Consumption: 800 mA

### Optional Devices:

- Remote display AV20/5
- Remote display AV40/5
- RF Remote display AV50
- Remote display AV80
- Big display
- Alarm
- Printer
- Remote control RF7

### Scale Features:

Total / Partial Weight	Programming Component Loading	Programming Unload Number	Number of Recipes	Number of Component Names	Component Names	Programming Recipes	Weight Recalculation
Yes	0	0	0	0	No	No	No

## HL25 - Weighing System for the Management of 1 Upload or 1 Unload

This weighing indicator unit is equipped with a unique double display system. The central display is a large, bright 5 digit LED system for weight display. There is also an additional smaller 2-digit display. The second display is a back-lighted LCD system that shows the information about different operations.

Used to control the partial and total weight of any components to be loaded or unloaded, the HL25 records and holds information from the last 5 overloads that have occurred. Dosing operations can be controlled either manually or by preprogramming 1 upload and 1 discharge process via the automatic mode.



### Main Features:

- Big numbers
- Double display
- Managing of 1 load / Managing of 1 unload
- Pre alarm at 85%
- Alarm lasting time when load is complete
- Weight blocking during handling
- Data print options available

DESCRIPTION	PART NUMBER
Weighing system for the management of 1 upload or 1 unload	HL25

### Technical Specifications:

- High sensitivity membrane keyboard
- Casting aluminium casing
- Protection class: IP68 with plug-in connectors
- Size L 230 x H 180 x W 65 mm
- Weight: 1800 g
- Display: 5 red LED digits 45 x 28 mm  
Backlit LCD (2 Lines, 16 characters per line)
- Display visible in full sunlight
- Memory: Eeprom, non-volatile
- Available weight divisions: 1 - 2 - 5 - 10 Kg
- Time / Calendar
- Resolution: - 135000 dd
- Operating conditions: -20 to +70°C
- Relative humidity: 95%
- Power supply: da 11 a 28V dc
- Absorbing power: 6 VA max
- Load cells in parallel connection: Max 12 (350 Ω)
- Load cell power supply: 5 Vcc
- Margin of reading error: ± 1 Kg out of 10,000 Kg
- Display data field: ± 99999 to -99999
- Measuring range: ± 2 mV to ± 20 mV
- Conversion speed per second: 10 / sec.
- Serial outputs: 1 fixed, 2 optional
- Protection against radio frequency interferences
- Elimination of power supply interferences
- Signalling of low tension
- Consumption: 800 mA

### Optional Devices:

- Remote display AV20/5
- Remote display AV40/5
- RF Remote display AV50
- Remote display AV80
- Big display
- Alarm
- Printer
- Remote control RF7

### Scale Features:

Total / Partial Weight	Programming Component Loading	Programming Unload Number	Number of Recipes	Number of Component Names	Component Names	Programming Recipes	Weight Recalculation
Yes	1	1	0	0	No	No	No

## HL30 - Weighing System for the Management of 15 Recipes and 15 Components

This weighing indicator unit is equipped with a unique double display system. The central display is a large, bright 5 digit LED system for weight display. There is also an additional smaller 2-digit display. The second display is a back-lighted LCD system that shows the information about different operations.

Used to control the partial and total weight of any components to be loaded or unloaded, the HL30 records and holds information from the last 5 overloads that have occurred. Dosing operations can be controlled either manually or by preprogramming up to 15 recipes from 15 different components.



### Main Features:

- 15 recipes / 15 components in loading and in unloading
- Pre alarm at 85%
- Alarm lasting time when load is complete
- Administration of the name of the components and recipes
- Final mixing time
- Accumulations and block for movements
- Data print option available

DESCRIPTION	PART NUMBER
Weighing system for the management of 15 recipes and 15 components	HL30

### Technical Specifications:

- High sensitivity membrane keyboard
- Casting aluminium casing
- Protection class: IP68 with plug-in connectors
- Size L 230 x H 180 x W 65 mm
- Weight: 1800 g
- Display: 5 red LED digits 45 x 28 mm  
Backlit LCD (2 Lines, 16 characters per line)
- Display visible in full sunlight
- Memory: Eeprom, non-volatile
- Available weight divisions: 1 - 2 - 5 - 10 Kg
- Time / Calendar
- Resolution: - 135000 dd
- Operating conditions: -20 to +70°C
- Relative humidity: 95%
- Power supply: da 11 a 28V dc
- Absorbing power: 6 VA max
- Load cells in parallel connection: Max 12 (350 Ω)
- Load cell power supply: 5 Vcc
- Margin of reading error: ± 1 Kg out of 10,000 Kg
- Display data field: ± 99999 to -99999
- Measuring range: ± 2 mV to ± 20 mV
- Conversion speed per second: 10 / sec.
- Serial outputs: 1 fixed, 2 optional
- Protection against radio frequency interferences
- Elimination of power supply interferences
- Signalling of low tension
- Consumption: 800 mA

### Optional Devices:

- Remote display AV20/5
- Remote display AV40/5
- RF Remote display AV50
- Remote display AV80
- Big display
- Alarm
- Printer
- Remote control RF7

### Scale Features:

Total / Partial Weight	Programming Component Loading	Programming Unload Number	Number of Recipes	Number of Component Names	Recipe Names	Programming Recipes	Weight Recalculation
Yes	15	15	15	40	Yes	Animals, Totals, Percentages	Yes

## HL50 - Weighing System for the Management of 50 Recipes and 30 Components

This weighing indicator unit is equipped with a unique double display system. The central display is a large, bright 5 digit LED system for weight display. There is also an additional smaller 2-digit display. The second display is a back-lighted LCD system that shows the information about different operations.

Used to control the partial and total weight of any components to be loaded or unloaded, the HL50 records and holds information from the last 5 overloads that have occurred. Dosing operations can be controlled either manually or by preprogramming up to 50 recipes from 30 different components.



### Main Features:

- 50 recipes / 30 components in loading and in unloading
- Pre alarm at 85%
- Alarm lasting time when load is complete
- Administration of the name of the components and recipes
- Final mixing time
- Accumulations and block for movements
- Data print option available

DESCRIPTION	PART NUMBER
Weighing system for the management of 50 recipes and 30 components	HL50

### Technical Specifications:

- High sensitivity membrane keyboard
- Casting aluminium casing
- Protection class: IP68 with plug-in connectors
- Size L 230 x H 180 x W 65 mm
- Weight: 1800 g
- Display: 5 red LED digits 45 x 28 mm  
Backlit LCD (2 Lines, 16 characters per line)
- Display visible in full sunlight
- Memory: Eeprom, non-volatile
- Available weight divisions: 1 - 2 - 5 - 10 Kg
- Time / Calendar
- Resolution: - 135000 dd
- Operating conditions: -20 to +70°C
- Relative humidity: 95%
- Power supply: da 11 a 28V dc
- Absorbing power: 6 VA max
- Load cells in parallel connection: Max 12 (350 Ω)
- Load cell power supply: 5 Vcc
- Margin of reading error: ± 1 Kg out of 10,000 Kg
- Display data field: ± 99999 to -99999
- Measuring range: ± 2 mV to ± 20 mV
- Conversion speed per second: 10 / sec.
- Serial outputs: 1 fixed, 2 optional
- Protection against radio frequency interferences
- Elimination of power supply interferences
- Signalling of low tension
- Consumption: 800 mA

### Optional Devices:

- Remote display AV20/5
- Remote display AV40/5
- RF Remote display AV50
- Remote display AV80
- Big display
- Alarm
- Printer
- Remote control RF7

### Scale Features:

Total / Partial Weight	Programming Component Loading	Programming Unload Number	Number of Recipes	Number of Component Names	Recipe Names	Programming Recipes	Weight Recalculation
Yes	30	50	50	40	Yes	Animals, Totals, Percentages	Yes

## GRAPHIC A USB - Weighing System

Weighing system for the automation of loading and unloading operations of Unifeed Mixer Feeder Wagons, and data transmission to a PC via USB Memory

Weighing control unit engineered for quicker and smoother automation of the Unifeed Mixer Feeder Wagons loading and unloading operations. With its high-luminescence high-visibility graphic display, it enables setting of up to 80 recipes and 20 components and relevant recipe dosing per individual animal and per total number of animals, of single ingredient specification options (e.g. hay, silo feed, maize, etc.), of recipe specification options (e.g. milk, fattening, dry feed, etc.), it is equipped with multilingual graphic interface system, innovative warranty control system via the built-in hour metre, an intelligent mixer feeder wagon overcharge monitoring and control system, data storage of time and number of overcharge event occurrences, accumulation control system, mixer time interval setting options, required data printing options. Possibility of importing/exporting recipes and data to and from PC through USB Pen Drive to be processed via Data-Mix-Card program. Backup data storage on the scale and possibility of data transfer to a PC, useful function if USB Pen Drive should be damaged. If required the Topcut function is available and it allows the management of blades that could be installed to hash the material inside the mixer wagon.



### Main Features:

- 80 recipes
- 20 components
- Loading and unloading data backup management
- Multilingual
- Calculation of ration per animal
- Working mode for individual animal or for groups
- Accumulations
- Data print options.
- TopCut management possibility
- Computer connection
- Dedicated software packs (Data Mix Card 3.50)

DESCRIPTION	PART NUMBER
GRAPHIC A USB weighing system	HL80A

### Technical Specifications:

- High sensitivity membrane keyboard
- Casting aluminium casing
- Protection class: IP68 with plug-in connectors
- Size L 230 x H 180 x W 65 mm
- Weight: 1900 g
- Display: Graphic, 240 x 128 pixel
- Display visible in full sunlight
- Memory: Eeprom, non-volatile
- Available weight divisions: 1 - 2 - 5 - 10 Kg
- Time / Calendar
- Resolution: - 135000 dd
- Operating conditions: -20 to +70°C
- Relative humidity: 95%
- Power supply: da 11 a 28V dc
- Absorbing power: 5 VA max
- Load cells in parallel connection: Max 12 (350 Ω)
- Load cell power supply: 5 Vcc
- Margin of reading error: ± 1 Kg out of 10,000 Kg
- Display data field: ± 99999 to -99999
- Measuring range: ± 2 mV to ± 20 mV
- Conversion speed per second: 10 / sec.
- Serial outputs: 1 fixed, 2 optional
- Protection against radio frequency interferences
- Elimination of power supply interferences
- Signalling of low tension
- Consumption: 1000 mA

### Optional Devices:

- Remote display AV20/5
- Remote display AV30/5
- RF Remote display AV50
- RF Remote display AV80
- Remote display D.G.
- Big Display
- Printer
- Remote control RF7
- Alarm

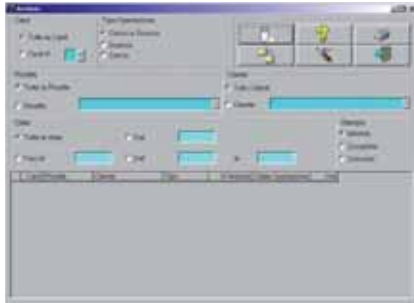
### Scale Features:

Total / Partial Weight	Programming Component Loading	Programming Unload Number	Number of Recipes	Number of Component Names	Upload Groups	USB Memory	PC Connection
Yes	20	20	80	40	No	Yes	Data Mix Card 3.50.XX

## Data Mix Card 3.50

Software for data transfer from the weighing computer Graphic Memory A and to PC and vice versa, through Pen Drive USB or Memory Card

The Data Mix Card software is based on the PTM's long experience in the field of animals feeding and its management. Thanks to this software there is the great opportunity to get, without any waste of time, a clear and reliable picture of the feeding of our animals. Furthermore, obtained information can be usefully taken into consideration when calculating each recipe.



DESCRIPTION	PART NUMBER
Data mix card 3.50 - software to work in conjunction with GRAPHIC A	DMC350

Data Mix Card software, together with Graphic Memory A and Graphic A USB scales, offers the following possibilities:

- Simple programming of the recipes, with suitable name, up to 80 different recipes, with 20 components each.
- Possibility to quickly modify the ration in comparison with the percentage of adjustment of each single component and recipe.
- Graphic representation of the percentage related to the distribution of each component.
- Data transfer to a PC through the memory card and a USB reader or pen drive.
- Loading and unloading data back up while working, through USB pen drive.
- Possibility of managing more scales simultaneously.
- Setting a components list with the opportunity to input the cost per kilo.
- Warehouse management and easy representation of available quantities.
- Alarm working as per fixed minimum limit duly set.
- Management of one customer archive for companies that work on behalf of third parties.
- Multilingual system.
- Possibility to transfer the data directly to Excel.
- Compatible with all Windows systems.
- Possibility to input the milk produced data and the relevant sales price per litre (or Kg) to calculate automatically proceeds and the proceeds / costs ratio.
- Comprehensive data archive function.

### Archive Functions

- Easy and quick representation of the performed operations in relation to:
  - (i) Recipe.
  - (ii) Time.
  - (iii) Customers.
  - (iv) Working trend.
  - (v) Cards.
- Report generation:
  - (i) Complete print = detailed representation of affected operations.
  - (ii) Small print = representation of effective operations with main data.
  - (iii) Consumption report.
  - (iv) Print of costs = representation of labour costing per recipe.

## GRAPHIC SUPER USB - Weighing System

Weighing system for the automation of loading and unloading operations of Unifeed Mixer Feeder Wagons, and data transmission to a PC via USB Memory

Weighing control unit developed for quicker and smoother automation of loading and unloading operations of Unifeed Mixer Feeder Wagons. Supplied with high-luminescence high-visibility graphic display, it allows to set out up to 150 recipes, each with 30 ingredients in load and 50 unloads, as well as their relative dosing per single animal and per total number of animals. It is possible to give a name to single ingredients (e.g. hay, silo feed, maize, etc.), to recipes (e.g. milk, fattening, dry feed, etc.), and to unloading operations. The loading of ingredients with to-the-gram accuracy is also possible. Instant atmospheric temperature display function provided. It features: an interactive graphic interface system in 15 languages - freely selectable via code entry -, an innovative warranty control system via built-in hour counter, an intelligent system of monitoring and control of mixer feeder wagon overcharge - with data storage of time and number of overcharge events -, accumulation control system, possibility of setting the mixing time interval and printing required data. The TOPCUT function is available. The possibility of importing/exporting recipes and operational data via USB-PenDrive memory to and from PC for processing through Super-Data-Mix 5 software is also provided, as well as the possibility to save backup data on the weighing computer and transfer them to PC (useful in case the USB-Pendrive is damaged).



### Main Features

- 150 recipes • 30 ingredient in load • 50 unloads per recipe
- Programming per animals or totals
- Possibility of programming components, recipes, groups and wagons from PC
- Possibility of modifying and creating recipes on the weighing computer thanks to the data transferred from PC
- Atmospheric temperature display
- Data print possible • Multi language • Built-in hour counter
- Control system of overcharges
- Possibility of selecting the weight division
- Possibility of calibrating the weighing computer in grams
- Computer connection through USB-Pendrive
- Data backup management
- Dedicated software (Super Data Mix 5)

DESCRIPTION	PART NUMBER
GRAPHIC SUPER USB weighing system	HL150A

### Technical Specifications:

- High sensitivity membrane keyboard
- Casting aluminium casing
- Protection class: IP68 with plug-in connectors
- Size L 230 x H 180 x W 65 mm
- Weight: 1900 g
- Display: Graphic, 240 x 128 pixel
- Display visible in full sunlight
- Memory: Eeprom, non-volatile
- Available weight divisions: 1 - 2 - 5 - 10 Kg
- Time / Calendar
- Resolution: - 135000 dd
- Operating conditions: -20 to +70°C
- Relative humidity: 95%

- Power supply: da 11 a 28V dc
- Absorbing power: 5 VA max
- Load cells in parallel connection: Max 12 (350 Ω)
- Load cell power supply: 5 Vcc
- Margin of reading error: ± 1 Kg out of 10,000 Kg
- Display data field: ± 99999 to -99999
- Measuring range: ± 2 mV to ± 20 mV
- Conversion speed per second: 10 / sec.
- Serial outputs: 1 fixed, 2 optional
- Protection against radio frequency interferences
- Elimination of power supply interferences
- Signalling of low tension
- Consumption: 1000 mA

### Optional Devices:

- Remote display AV20/5
- Remote display AV30/5
- RF Remote display AV50
- RF Remote display AV80
- Remote display D.G.
- Big Display
- Printer
- Remote control RF7
- Temperature probe
- CAN-Bus
- ZigBee
- Alarm

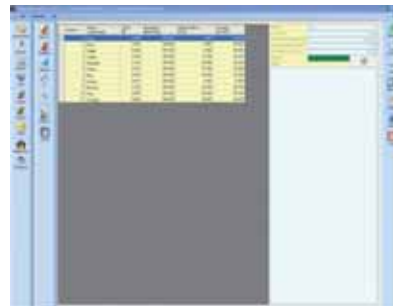
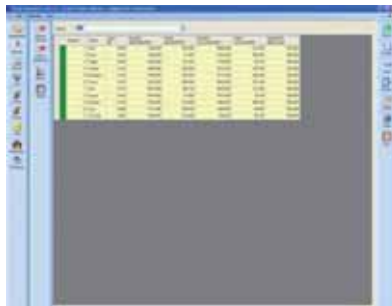
### Scale Features:

Total / Partial Weight	Programming Component Loading	Programming Unload Number	Number of Recipes	Number of Component Names	Upload Groups	USB Memory	PC Connection
Yes	30	50	150	99	99	Yes	Super Data Mix 5.XX

## Super Data Mix 5XX

Software for data transfer from the weighing computer Graphic Super Memory and Graphic Super USB to PC and vice versa through Memory Card or USB Pendrive

Thanks to experience gained with the softwares Data-Mix-Card and Super Data Mix 4, PTM is now able to offer even more in the field of animals feeding and management, by proposing the software Super Data Mix 5. Interfaced with the weighing computers Graphic Super Memory and Graphic Super USB, it allows to handle and programme several functions: from the possibility to manage single unload groups to the detailed re-elaboration of the costs of recipes and single components, from the opportunity to personalize the component stock to the detection of instantaneous atmospheric temperature during the working operations, from the calculation of the nutritive value of each single recipe and of the quantity of dried substance to load to the possibility to set out the loading operation according to weight or dried substance. Thanks to this software there is the chance to get a clear and reliable picture of the feeding of your animals without any waste of time. The information obtained regarding the productivity of animals can also be usefully taken into consideration when calculating each recipe.



DESCRIPTION	PART NUMBER
Super data mix card 5XX - software to work in conjunction with GRAPHIC SUPER	DMC5XX

The Super Data Mix Software, used with the weighing computers Graphic Super Memory and Graphic Super USB, offers the following possibilities:

- Programming of up to 99 cards
- Data transfer to the weighing computer through USB key or Memory Card
- Use of more cards at the same time
- Management of alarm percentages for loading and unloading operations
- When working with USB key, it is possible to activate the function of data backup, in order to avoid losing information in case the USB key is broken or damaged
- Compatible with Windows XP, Windows Vista and Windows 7 32 and 64 bit
- Data export to Excel or Text file
- Simple programming of recipes with suitable name, up to 150 different recipes
- Possibility to programme up to 30 components per recipe
- Possibility to modify the quantity to be loaded by varying the quantity to load of each single component or of the whole recipe according to a percentage
- Graphic representation of the distribution percentage of each single component during recipe programming
- Management of the percentage of dried substance for each component, with its nutritive value and cost (pro Kg)
- Processing of recipe costs
- Processing of the costs of each single operation;
- Management of labour cost
- Management of milk price
- Calculation of recipe proceeds and benefits
- Graphic representation of cost trend
- Management of a customer database
- Possibility to register the deliveries with quantity and arrival date of the material
- Management of a common stock and of the single stocks of the different customers, each with its alarm quantity
- Management of data regarding external atmospheric temperature
- Management of a loading archive, with possibility of searching a specific operation and displaying the details of this operation

*Continued on the next page . . .*



- Possibility to print reports for one or more operations in the loading archive; it is possible to print:
  - Complete report
  - Minimum report
  - Consumption report
  - Operation list
  - Report on working time of each operation;
  - List of the loaded recipe components;
  - List of the loaded recipe components with corresponding values of dried substance  
(All these reports can be exported to Excel or Text file.)
- Management of an unloading archive, with possibility of searching a specific operation and registering the amount of produced milk
- Possibility to print reports for one or more operations in the unloading archive; it is possible to print:
  - Complete report
  - Minimum report
  - Operation list
  - Report on working time of each operation
  - Report on milk production  
(All these reports can be exported to Excel or Text file.)
- Display of partial amounts to load for each wagon;
- Possibility to send the database to the PTM technical department to find a solution to the problems;
- Possibility to replace, compress and make a backup copy of the database;
- Possibility to ask for a wireless device to transfer data from the PC to the weighing computer (through ZigBee technology).

**AV50**

This innovative and highly functional hand held device facilitates the complete remote control of the HL weighing system. It is connected via a radio frequency transmitter and has a high quality dual display with a large 6 digit LED and keyboard function with the exact functions of the HL system allowing a simple and practical crossover.



**Main Features:**

- Repeater display featuring an RF signal transmission system
- AV50 is provided with a keyboard, which has the keys with the same functions of the scales already mentioned
- Fixing support for tractor available on request

**Technical Characteristics:**

- High sensibility membrane keyboard
- Container in ABS
- Protection: IP 65
- Dimensions: Length: 110mm  
Height: 210mm  
Depth: 40mm
- Weight: 450g
- First Display: Alphanumerical, backlit LCD (2 lines, 16 characters per line)
- Second Display: 6 alphanumerical, red LED digits
- Memory: Non volatile
- Batteries: 2 lithium-ion rechargeable
- Operating conditions: -20 to + 60° C
- Relative humidity: 95%
- Power supply: from 11 to 28 Vdc
- Absorbed power: 5 VA consumption during charging
- Transceiver: A868 MHz in Fm
- Internal RF Antenna
- Signal of low battery tension
- Range of use: Up to 50 metres
- 4 Transmission channels available for the connection of relevant devices simultaneously

DESCRIPTION	PART NUMBER
High function hand held remote to use in conjunction with HL20, 25, 30 & 50 weighing system	AV50



**Radio Frequency Transmitter for use with AV50 / AV80**

Radio frequency transmitter to suit AV50 and AV80 remote portable display units.

DESCRIPTION	PART NUMBER
Radio transmitter to suit AV50 and AV80	AV5080RFT



**Table Battery Charger to suit AV50**

Table battery charger (220V) to suit AV50 remote portable display unit.

DESCRIPTION	PART NUMBER
Table battery charger to suit AV50	AV50BC1



**Tractor Mounted Battery Charger to suit AV50**

Stainless steel tractor mounted charger (12/24V) to suit AV50.

DESCRIPTION	PART NUMBER
Tractor mounted battery charger to suit AV50	AV50BC2

**AV80**

This innovative and highly functional portable device facilitates the complete remote control of the main functions of the HL weighing system. It is connected via a radio frequency transmitter and has a high quality display with a multi functional touch keypad which allows complete integration with the HL weighing system.



**Main Features:**

- Repeater display featuring an RF signal transmission system
- Equipped with some keys in order to join similar menus of scales
- Weight repeater display, to be also put on the arm with an elastic strap

**Technical Characteristics:**

- High sensibility mechanical keyboard
- Container in ABS
- Protection: IP 54
- Dimensions: Length: 150mm  
Height: 100mm  
Depth: 45mm
- Weight: 330g
- Display: Alphanumerical, backlit LCD (2 lines, 14 characters per line)
- Memory: Non volatile
- Batteries: 1 lithium-ion rechargeable
- Operating conditions: -20 to + 60° C
- Relative humidity: 95%
- Power supply: from 11 to 28 Vdc
- Absorbed power: 4 VA consumption during charging
- Transceiver: A868 MHz in Fm
- Internal RF Antenna
- Signal of low battery tension
- Range of use: Up to 50 meters
- 4 Transmission channels available for the connection of relevant devices simultaneously

DESCRIPTION	PART NUMBER
High function hand held remote to use in conjunction with HL20, 25, 30 & 50 weighing system	AV80



**Vehicle Mount Bracket for use with AV80**

DESCRIPTION	PART NUMBER
Vehicle mount bracket to suit AV80	AV80VMB



**Radio Frequency Transmitter for use with AV50 / AV80**

Radio frequency transmitter to suit AV50 and AV80 remote portable display units.

DESCRIPTION	PART NUMBER
Radio transmitter to suit AV50 and AV80	AV5080RFT



**Table Battery Charger to suit AV80**

Table battery charger (220V) to suit AV80 remote portable display unit.

DESCRIPTION	PART NUMBER
Table battery charger to suit AV80	AV80BC2



**12V Plug Power Supply to suit AV80**

12V plug in power supply to suit AV80 remote portable display unit.

DESCRIPTION	PART NUMBER
12V plug in power supply to suit AV80	AV80BC1



**Power Cable for Control Box**

DESCRIPTION	LENGTH	PART NUMBER
2 Pin power supply cable to suit control box	7.6 metre	SC762



**Junction Box - 5 Connections**

DESCRIPTION	PART NUMBER
Junction box with cable presses and clamps	JBL1



**Junction Box - 7 Connections**

DESCRIPTION	PART NUMBER
Junction box with 7 connections	JB7IN



**Square Load Cell Connection Cable**

DESCRIPTION	LENGTH	PART NUMBER
Connection cable to suit square load cells	6 metre	JCSS6



**Mixer Wagon Load Cell Connection Cable**

DESCRIPTION	LENGTH	PART NUMBER
Connection cable to suit square load cells	7 metre	JCMW7



**Quick Attach Junction Box for attaching 4 Load Cells**

DESCRIPTION	PART NUMBER
Load cell quick attach junction box - 4 connections	JB4IN-8



**Quick Attach Junction Box for attaching 6 Load Cells**

DESCRIPTION	PART NUMBER
Load cell quick attach junction box - 6 connections	JB6IN

### SB1 Stainless Steel - Shear Load Cells 250 to 2000 Kg

The SB1 cells belong to the "shear" load cell series. They are therefore extremely rigid towards measured load and lateral or transverse loads. Their compact, all stainless steel construction make them the ideal solution for industrial weighing applications such as platforms, silos, tanks, dosing systems, etc.

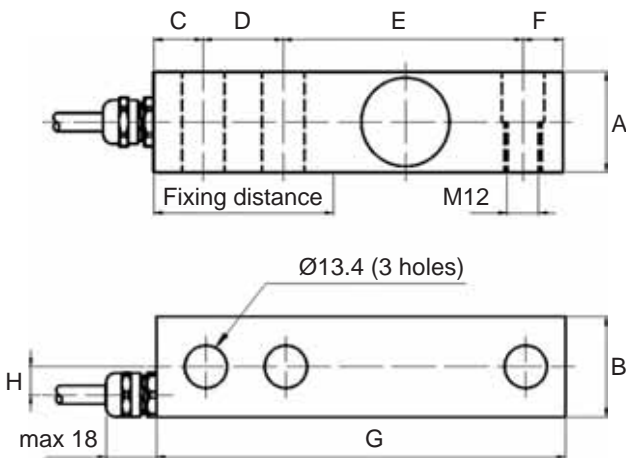


**Main Features:**

- Stainless steel composition
- Combined errors: 0.03%
- Non-sensitive to shear loads
- Protection class IP67, IP68

**Technical Specifications:**

- Accuracy class (to OIML IR60) C3
- Nominal full scale load (Ln): 250, 500, 1000, 2000Kg
- Nominal sensitivity FSO: 3 mV/V
- Tolerance on sensitivity at Ln: <math><\pm 0.35\%F.S.</math>
- Combined errors -
  - Non-linearity: <math><\pm 0.03\%F.S.</math>
  - Hysteresis: <math><\pm 0.03\%F.S.</math>
  - Repeatability: <math><\pm 0.02\%F.S.</math>
- Creep (after 30 min at Ln) <math><\pm 0.02\%F.S.</math>
- Zero balance: <math><\pm 1.00\%F.S.</math>
- Thermal drift in compensated range -
  - Zero calibration: <math><\pm 0.02\%F.S.</math>
  - Sensitivity: <math><\pm 0.02\%F.S.</math>
- Normal input impedance: 350Ω±5
- Normal output impedance: 350Ω±3
- Isolation resistance: >5000 MΩ
- Nominal power supply voltage: 10 Vdc
- Maximum power supply voltage: 15 Vdc
- Compensated temperature range: -10 to +40°C
- Maximum temperature range: -20 to +50°C
- Storage temperature range: -10 to +60°C
- Maximum load: 120% Ln
- Breaking load: 150% Ln
- Protection class (DIN 40050) IP67, IP68



The overall combined error and thermal shift data comply with the casing shell limits as defined by OIML regulation IR60.

LOAD CAPACITY	A	B	C	D	E	F	G	H	FIXING DISTANCE	PART NUMBER
250 Kg	29.8	31.75	15.75	25.4	76.2	12.65	130	9	57	SB1-K2C5
500 Kg	31.75	31.75	15.75	25.4	76.2	12.65	130	9	57	SB1-K5C
1000 Kg	31.75	31.75	15.75	25.4	76.2	12.65	130	9	57	SB1-K1M
2000 Kg	31.75	31.75	15.75	25.4	76.2	12.65	130	9	57	SB1-K2M



**Load Cell Connection and Cable Length**

Load cells can be supplied with the required cable length to suit your application. They can also be supplied with a 5 pin quick connection which can be used in conjunction with quick connection junction boxes (listed on page 13) which allow easy installation / replacement.

### SB1 Stainless Steel - Shear Load Cells 3000 to 7500 Kg

The SB1 cells belong to the "shear" load cell series. They are therefore extremely rigid towards measured load and lateral or transverse loads. Their compact, all stainless steel construction make them the ideal solution for industrial weighing applications such as platforms, silos, tanks, dosing systems, etc.

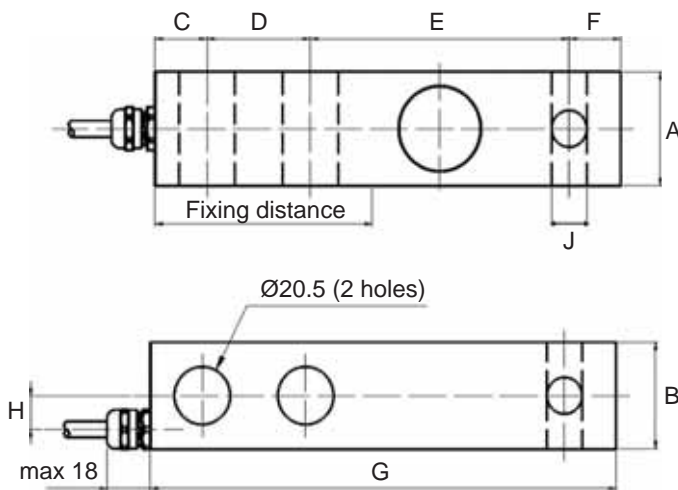


**Main Features:**

- Stainless steel composition
- Combined errors: 0.03%
- Non-sensitive to shear loads
- Protection class IP67, IP68

**Technical Specifications:**

- Accuracy class (to OIML IR60) C3
- Nominal full scale load (Ln): 3000, 5000, 7500
- Nominal sensitivity FSO: 3 mV/V
- Tolerance on sensitivity at Ln: <math>< \pm 0.35\% \text{F.S.}</math>
- Combined errors -
  - Non-linearity: <math>< \pm 0.03\% \text{F.S.}</math>
  - Hysteresis: <math>< \pm 0.03\% \text{F.S.}</math>
  - Repeatability: <math>< \pm 0.02\% \text{F.S.}</math>
- Creep (after 30 min at Ln) <math>< \pm 0.02\% \text{F.S.}</math>
- Zero balance: <math>< \pm 1.00\% \text{F.S.}</math>
- Thermal drift in compensated range -
  - Zero calibration: <math>< \pm 0.02\% \text{F.S.}</math>
  - Sensitivity: <math>< \pm 0.02\% \text{F.S.}</math>
- Normal input impedance: 350Ω±5
- Normal output impedance: 350Ω±3
- Isolation resistance: >5000 MΩ
- Nominal power supply voltage: 10 Vdc
- Maximum power supply voltage: 15 Vdc
- Compensated temperature range: -10 to +40°C
- Maximum temperature range: -20 to +50°C
- Storage temperature range: -10 to +60°C
- Maximum load: 120% Ln
- Breaking load: 150% Ln
- Protection class (DIN 40050) IP67, IP68



The overall combined error and thermal shift data comply with the casing shell limits as defined by OIML regulation IR60.

LOAD CAPACITY	A	B	C	D	E	F	G	H	J	FIXING DISTANCE	PART NUMBER
3000 Kg	40.6	38	19.1	38.1	95.3	19	171.5	12	13	80	SB1-K3M
5000 Kg	40.6	38	19.1	38.1	95.3	19	171.5	12	13	80	SB1-K5M
7500 Kg	40.6	38	19.1	38.1	95.3	19	171.5	12	15	80	SB1-K7M5



#### Load Cell Connection and Cable Length

Load cells can be supplied with the required cable length to suit your application. They can also be supplied with a 5 pin quick connection which can be used in conjunction with quick connection junction boxes (listed on page 13) which allow easy installation / replacement.

### SB1 Stainless Steel - Shear Load Cells 10000 Kg

The SB1 cells belong to the "shear" load cell series. They are therefore extremely rigid towards measured load and lateral or transverse loads. Their compact, all stainless steel construction make them the ideal solution for industrial weighing applications such as platforms, silos, tanks, dosing systems, etc.

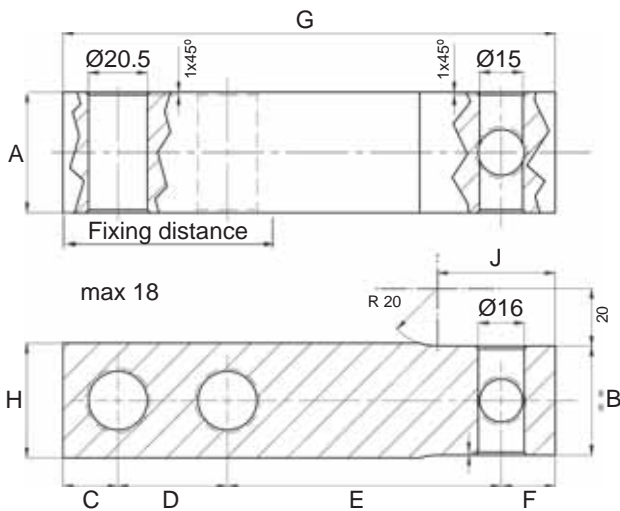


**Main Features:**

- Stainless steel composition
- Combined errors: 0.03%
- Non-sensitive to lateral loads
- Protection class IP67, IP68

**Technical Specifications:**

- Accuracy class (to OIML IR60) C3
- Nominal full scale load (Ln): 10000Kg
- Nominal sensitivity FSO: 2 mV/V
- Tolerance on sensitivity at Ln: <math><\pm 0.35\%F.S.</math>
- Combined errors -
  - Non-linearity: <math><\pm 0.02\%F.S.</math>
  - Hysteresis: <math><\pm 0.02\%F.S.</math>
  - Repeatability: <math><\pm 0.01\%F.S.</math>
- Creep (after 30 min at Ln) <math><\pm 0.02\%F.S.</math>
- Zero balance: <math><\pm 1.00\%F.S.</math>
- Thermal drift in compensated range -
  - Zero calibration: <math><\pm 0.02\%F.S.</math>
  - Sensitivity: <math><\pm 0.02\%F.S.</math>
- Normal input impedance: 350Ω±5
- Normal output impedance: 350Ω±3
- Isolation resistance: >5000 MΩ
- Nominal power supply voltage: 10 Vdc
- Maximum power supply voltage: 20 Vdc
- Compensated temperature range: -10 to +50°C
- Maximum temperature range: -20 to +60°C
- Storage temperature range: -10 to +60°C
- Maximum load: 100% Ln
- Breaking load: 200% Ln
- Protection class (DIN 40050) IP67, IP68



The overall combined error and thermal shift data comply with the casing shell limits as defined by OIML regulation IR60.

LOAD CAPACITY	A	B	C	D	E	F	G	H	J	FIXING DISTANCE	PART NUMBER
10000 Kg	42	38	19.1	38.1	95.3	18.8	171.3	40	41	80	SB1-K10M



#### Load Cell Connection and Cable Length

Load cells can be supplied with the required cable length to suit your application. They can also be supplied with a 5 pin quick connection which can be used in conjunction with quick connection junction boxes (listed on page 13) which allow easy installation / replacement.

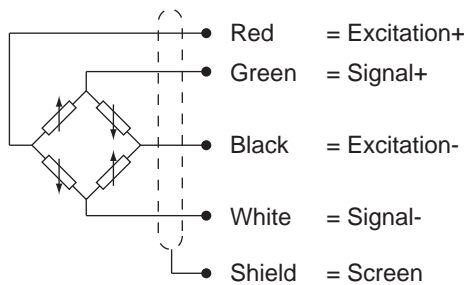
### Round Load Cells 3400 to 5000 Kg

The Unifeed series weighing sensors are extremely tough and have been developed for application in Mixer Feeder Wagons. These weighing load sensor cells are principally suitable for operations in humid environments. In fact it is thanks to their special protection that they are non-sensitive to a range of specific factors. This product line aptly showcases PTM's thirty year long experience in the mobile application load cell construction sectors.



#### Electrical Connection

The screen is isolated from the cell body. Screen connection to device grounding is recommended.

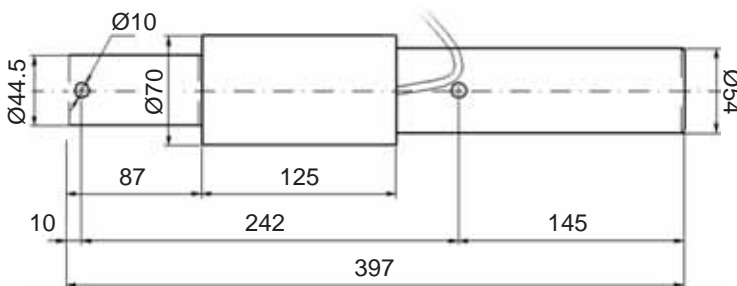


#### Parallel Electrical Connection of Multiple Load Cells

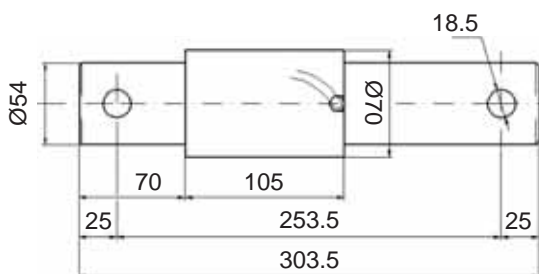
Execute the parallel connection of multiple load cells by connecting the same coloured wires up together. For systems implementing multiple parallel-connected load cells, the nominal load is given by the total sum of the single load cell capacities. System sensitivity though, is given by the average value of each single cell sensitivity values. It is important to ensure that load is distributed equally to the single cells. No single cell must be stressed beyond its maximum rating under any load condition.

#### Cable Length and Connector Options

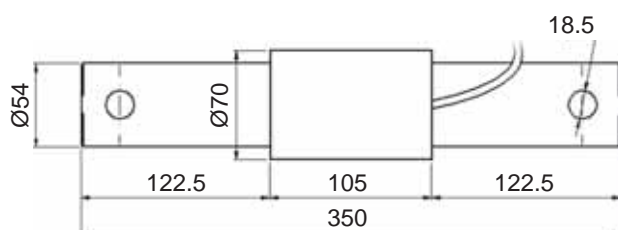
The sensor cells can be ordered with special cable lengths, customized to customer requirements. The cable lengths specified on the catalogue constitute the standard product cable lengths. Upon customer request, the sensor cells can also be fitted with a connector.



LOAD CAPACITY	PART NUMBER
3400 Kg	RB134



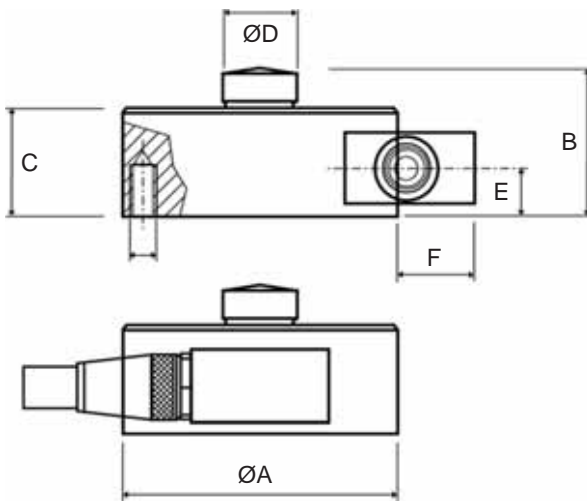
LOAD CAPACITY	PART NUMBER
4500 Kg	RB145



LOAD CAPACITY	PART NUMBER
5000 Kg	RB150

## CM1 Stainless Steel - Compression Load Cells 500 to 10000 Kg

The CM Series of load cells have been engineered for compression measuring in limited spaces. Use of parallel connected multiple cell arrangements make them very suitable for a number of industrial weighing applications. A special sealing feature makes them particularly suitable for humid and dusty environments.



### Main Features:

- Stainless steel composition
- Combined errors: 0.03%
- Reduced dimensions
- Corrosion-resistant

### Technical Specifications:

- Nominal full scale load (Ln): 500, 1000, 2500, 5000, 7500, 10000Kg
- Rated output: mV/V -2
- Output tolerance: 0.1% F.S.
- Nominal sensitivity FSO: 2 mV/V +/-0.1%
- Tolerance on sensitivity at Ln: <math>\leq \pm 0.35\% \text{ F.S.}</math>
- Combined errors -
  - Non-linearity: <math>\leq \pm 0.03\% \text{ FSO}</math>
  - Hysteresis: <math>\leq \pm 0.03\% \text{ FSO}</math>
  - Repeatability: <math>\leq \pm 0.03\% \text{ FSO}</math>
- Creep (after 30 min at Ln) <math>\leq \pm 0.01\% \text{ FSO}</math>
- Creep at normal load after 4 hrs. 0.03%
- Zero balance: +/-1.00%
- Thermal zero drift: 0.003% F.S./°C
- Thermal drift on F.S.: 0.002% F.S./°C
- Input impedance: 700-710  $\Omega$
- Output impedance: 700-702  $\Omega$
- Isolation resistance: 10000 M $\Omega$
- Maximum power supply voltage: 15 Volt
- Temperature effect on zero: 0.005%/°C
- Temperature effect on FSO span: 0.003%/°C
- Operating temperature range: -20 to +70°C
- Temperature compensation: -10 to +40°C
- Maximum static load: 150%
- Breaking load: 300% F.S.
- Deflection at nominal load: 0.4mm
- Protection class (DIN 40050) IP67 - IP68

The overall combined error and thermal shift data comply with the casing shell limits as defined by OIML regulation IR60.

LOAD CAPACITY	A	B	C	D	E	F	PART NUMBER
500 Kg	82	44	32	22	14	12	CM-K5C
1000 Kg	82	44	32	22	14	12	CM1-K1M
2500 Kg	82	44	32	22	14	12	CM1-K2M5C
5000 Kg	82	44	32	22	14	12	CM1-K5M
7500 Kg	82	44	32	22	14	12	CM1-K7M5C
10000 Kg	82	44	32	22	14	12	CM1-K10M

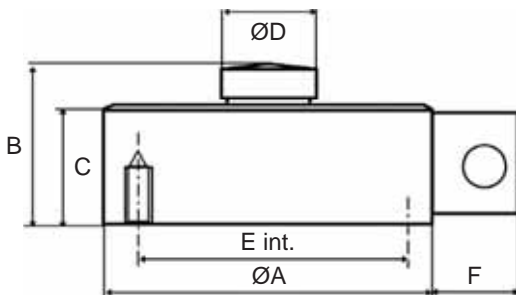


### Load Cell Connection and Cable Length

Load cells can be supplied with the required cable length to suit your application. They can also be supplied with a 5 pin quick connection which can be used in conjunction with quick connection junction boxes (listed on page 13) which allow easy installation / replacement.

### CM1 Stainless Steel - Compression Load Cells 15,000 to 50,000 Kg

The CM Series of load cells have been engineered for compression measuring in limited spaces. Use of parallel connected multiple cell arrangements make them very suitable for a number of industrial weighing applications. A special sealing feature makes them particularly suitable for humid and dusty environments.



**Main Features:**

- Stainless steel composition
- Combined errors: 0.03%
- Reduced dimensions
- Corrosion-resistant

**Technical Specifications:**

- Nominal full scale load (Ln): 15000, 20000, 25000, 30000, 35000, 50000Kg
- Rated output: mV/V -2
- Output tolerance: 0.1% F.S.
- Zero tolerance: 1% F.S.
- Nominal sensitivity FSO: 2 mV/V+/-0.1%
- Combined errors -
  - Non-linearity: <math><\pm 0.03\% \text{ FSO}</math>
  - Hysteresis: <math><\pm 0.03\% \text{ FSO}</math>
  - Repeatability: <math><\pm 0.03\% \text{ FSO}</math>
- Creep (after 30 min at Ln) <math><\pm 0.01\% \text{ FSO}</math>
- Creep at normal load after 4 hrs. 0.03%
- Zero balance: +/-1.00%
- Thermal zero drift: 0.003%F.S./°C
- Thermal drift on F.S.: 0.002%F.S./°C
- Input impedance: 700-710  $\Omega$
- Output impedance: 700-702  $\Omega$
- Isolation resistance: 10000 M $\Omega$
- Maximum power supply voltage: 15 Volt
- Temperature effect on zero: 0.005%/°C
- Temperature effect on FSO span: 0.003%/°C
- Operating temperature range: -20 to +70°C
- Temperature compensation: -10 to +40°C
- Maximum static load: 150%
- Breaking load: 300% F.S.
- Deflection at nominal load: 0.4mm
- Protection class (DIN 40050) IP67 - IP68

The overall combined error and thermal shift data comply with the casing shell limits as defined by OIML regulation IR60.

LOAD CAPACITY	A	B	C	D	E	F	PART NUMBER
15,000 Kg	100	48	35	28	-	20	CM1-K15M
20,000 Kg	100	48	35	28	-	20	CM1-K20M
25,000 Kg	126	54	40	35	-	20	CM1-K25M
30,000 Kg	126	54	40	35	-	20	CM1-K30M
35,000 Kg	126	54	40	35	-	20	CM1-K35M
50,000 Kg	165	80	60	60	-	20	CM1-K50M

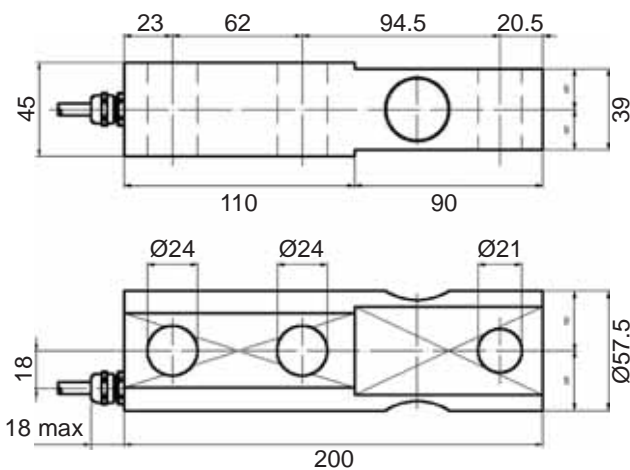
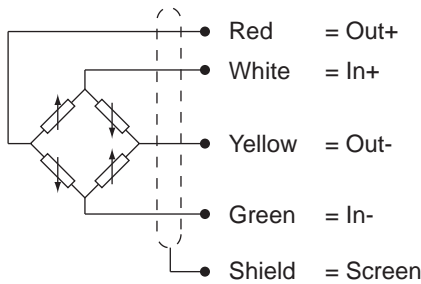


**Load Cell Connection and Cable Length**

Load cells can be supplied with the required cable length to suit your application. They can also be supplied with a 5 pin quick connection which can be used in conjunction with quick connection junction boxes (listed on page 13) which allow easy installation / replacement.

### SB2 Stainless Steel - Shear Load Cells 6000 Kg

The SB2 cells belong to the "shear" load cell series. They are therefore extremely rigid towards measured load and lateral or transverse loads. Their compact, all stainless steel construction make them the ideal solution for industrial weighing applications such as platforms, silos, tanks, dosing systems, etc.



**Main Features:**

- Stainless steel composition
- Combined errors: 0.035%
- Non-sensitive to shear loads
- Protection class IP67 - IP68

**Technical Specifications:**

- Accuracy: 0.04%
- Nominal full scale load (Ln): 6000 Kg
- Nominal sensitivity FSO: 2 mV/V
- Tolerance on sensitivity at Ln: <math>< \pm 0.2\% \text{ FSO}</math>
- Combined errors -
  - Non-linearity: <math>< \pm 0.04\% \text{ FSO}</math>
  - Hysteresis: <math>< \pm 0.04\% \text{ FSO}</math>
  - Repeatability: <math>< \pm 0.04\% \text{ FSO}</math>
- Creep (after 30 min at Ln) <math>< \pm 0.05\% \text{ F.S.}</math>
- Zero balance: <math>< \pm 0.50\% \text{ F.S.}</math>
- Thermal drift in compensated range -
  - Zero calibration: <math>< \pm 0.10\% \text{ FSO}/10\text{K}</math>
  - Sensitivity: <math>< \pm 0.05\% \text{ FSO}/10\text{K}</math>
- Normal input impedance: 350Ω±5
- Normal output impedance: 350Ω±3
- Isolation resistance: >10 GΩ
- Nominal power supply voltage: 10 Vdc
- Maximum power supply voltage: 15 Vdc
- Compensated temperature range: -10 to +40°C
- Maximum temperature range: -20 to +50°C
- Storage temperature range: -10 to +60°C
- Maximum application load: 150% Ln
- Breaking load: 300% Ln
- Maximum static side load: 100% Ln
- Maximum dynamic load (DIN 50100): 70% Ln
- Maximum deformation at Ln: <math>< 0.5\text{mm}</math>
- Protection class (DIN 40050) IP66

The overall combined error and thermal shift data comply with the casing shell limits as defined by OIML regulation IR60.

LOAD CAPACITY	DESCRIPTION	PART NUMBER
6000 Kg	SB2 Stainless steel shear load cell - without connection	<b>SB2K6M-1</b>
6000 Kg	SB2 Stainless steel shear load cell - with connection	<b>SB2K6M-2</b>



**Load Cell Connection and Cable Length**

Load cells can be supplied with the required cable length to suit your application. They can also be supplied with a 5 pin quick connection which can be used in conjunction with quick connection junction boxes (listed on page 13) which allow easy installation / replacement.

### SB8 Stainless Steel - Shear Load Cells 10000 Kg

The SB8 load cells have a double shear beam structure made of high quality alloy steel. Low profile, simple to install, easy to use. Working for both dynamic and static loading. Different connecting method according to different using environment. Widely used for forestry, agriculture, garbage transport and axle load weighing, etc.

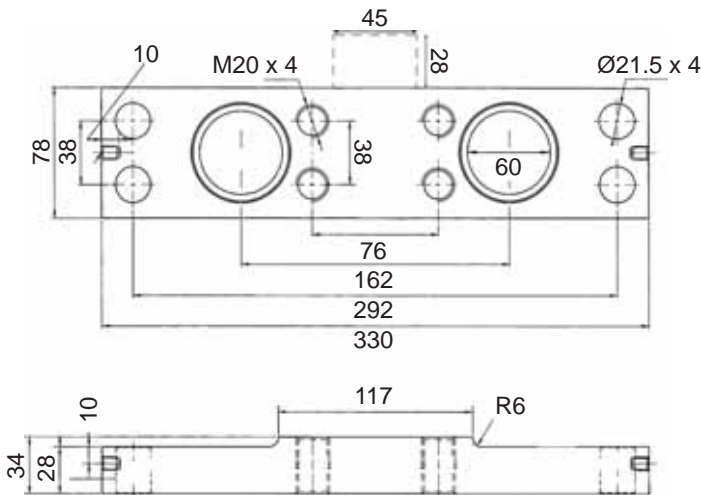


**Main Features:**

- Alloy steel
- Combined errors: 0.05%
- Protection class IP67

**Technical Specifications:**

- Rated output: <math>< \pm 0.5 \text{mV/V}</math>
- Nominal full scale load (Ln): 10000 Kg
- Combined errors -
  - Non-linearity: <math>< \pm 0.05\% \text{FSO}</math>
  - Hysteresis: <math>< \pm 0.05\% \text{FSO}</math>
  - Repeatability: <math>< \pm 0.01\% \text{FSO}</math>
- Creep (after 30 min at Ln) <math>< \pm 0.02\% \text{F.S.}</math>
- Zero balance: <math>< \pm 1.00\% \text{F.S.}</math>
- Temperature effect -
  - On zero: <math>< \pm 0.02\% \text{FS}/10^\circ</math>
  - On output: <math>< \pm 0.02\% \text{FS}/10^\circ</math>
- Normal input impedance: <math>385 \Omega \pm 10</math>
- Normal output impedance: <math>350 \Omega \pm 5</math>
- Isolation resistance: >5000 MOhms
- Nominal power supply voltage: 10V (dc/ac)
- Maximum power supply voltage: 20V (dc/ac)
- Compensated temperature range: -10 to +50°C
- Maximum temperature range: -20 to +60°C
- Safe overload: 120% FS
- Protection class: IP67



LOAD CAPACITY	DESCRIPTION	PART NUMBER
10000 Kg	SB8 Stainless steel shear load cell	SB8K10M-1



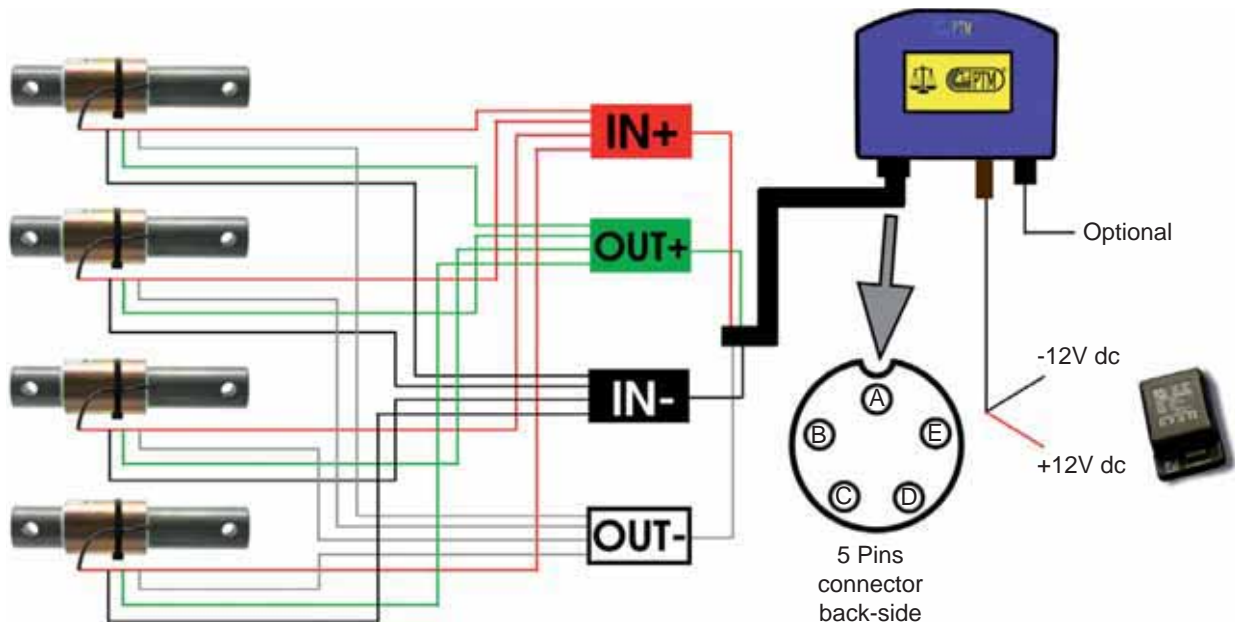
#### Load Cell Connection and Cable Length

Load cells can be supplied with the required cable length to suit your application. They can also be supplied with a 5 pin quick connection which can be used in conjunction with quick connection junction boxes (listed on page 13) which allow easy installation / replacement.

**Information about the Correct Installation of Electric Weighing Systems**

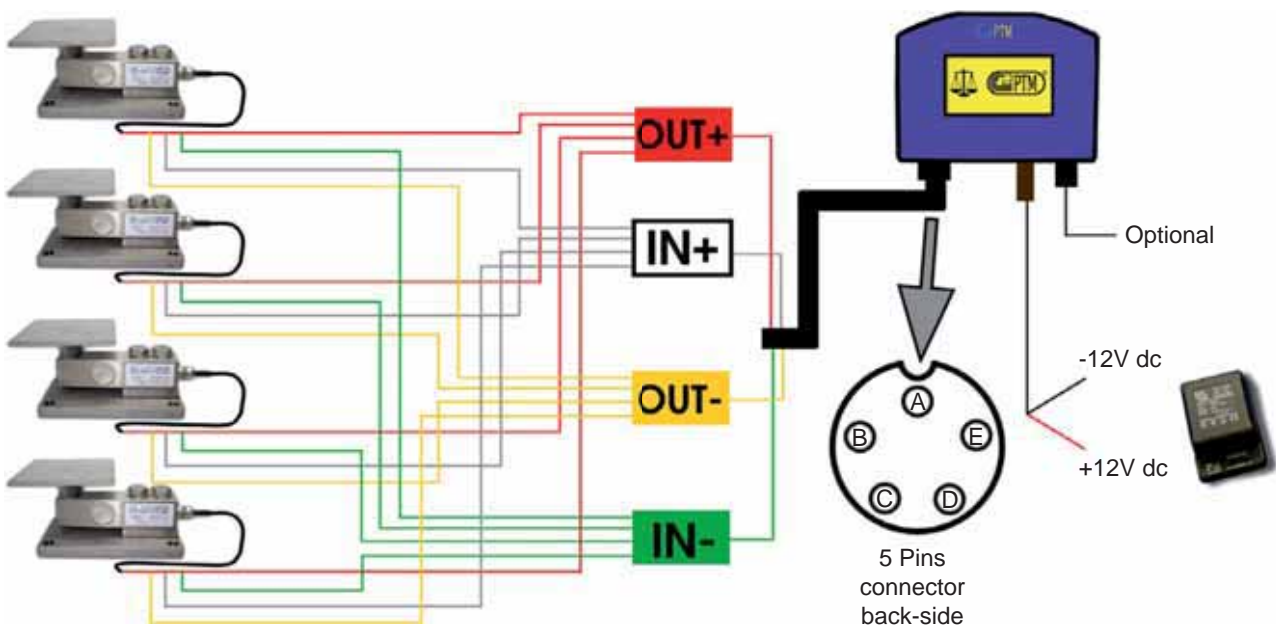
**Connection for Load Cells on Mixer Wagons**

Connect always all white wires of the load cells with the white wire of the scale cable. Repeat said operation for the Red, Green and Black wires.



**Connection for Stainless Steel Load Cells**

Connect always all yellow wires of the load cells with the yellow wire of the scale cable. Repeat said operation for the Green, White and Red wires.



## TELE-RF



## Device Functions:

- Working either via cable or radio frequency
- Complete programming of the keys available
- Up to 28 available outputs for each remote control
- Up to 3 actionable outputs from each key
- 4 different types of function available on the keys
- Choice among 4 different types of outputs
- Programming customized functions possible
- Management of up to 10A for each single output
- Management of up to 30A for more outputs activated at the same time
- Unlimited function combinations available
- Extreme versatility for several applications (straw cutter, mixer wagon, tun wagon, cranes, platforms, etc..)
- 6 available inputs from proximity sensors, external buttons or microswitches to block / release the user
- Display supplied with radiofrequency signal communication
- Working reach up to 50m via radiofrequency (in free field)
- Integrated antenna, or external antenna mounted outside the box on board, according to the user's requirements
- Terminal to control and visualize the functions
- Possibility to control 2 hydraulic flow adjustment motors
- Equipped with fixing support
- Emergency key and button to immediately stop the operations and switch the device off
- Valve protection against short circuits
- Complete protection fuses
- Resistant to strong mechanical stress

DESCRIPTION	PART NUMBER
System control remote	TELERF

The TELERF remote terminal has been developed to satisfy the requirements of remote control and automation via wireless or cable transmission. It is possible to control any system: electric, electro hydraulic, etc. and this device allows to directly control the operations carried out by the machine (e.g. straw-cutting machines, mixer wagons, tun wagons, cranes, platforms, etc.) and directly manage the contacts (electro valves or relays) associated to a specific operation; it is also possible to activate more than one function at the same time.

In addition to that, for greater clarity of the operations in progress, all the active controls are visualized on the alphanumeric LCD display. This remote control operates by means of a Power board installed on board of the machine, where the connections to the devices to control are made (such as electro valves, micro inputs, etc.)

Thanks to the integrated software, it is possible to adapt and set out the system according to one's requirements, just by setting out the wished parameters of the remote control. This device is prepared to manage up to 28 electro valves, 4 of which of proportional type, and 4 relays; that allows to use both on/off devices and adjustable devices. In addition to that, 6 outputs can be activated both through the remote control and by means of 6 external inputs, such as proximity sensors, micro switches or buttons. Two further analogical inputs 0-5V or 0-10V are also available.

As far as the safety of operator and machine is concerned, it is possible to carry out the following operations: set out a time lag before starting the driving control of a user, interblock two opposing controls, signal the activation of an output through led (in order to increase the visual check of the operator), and immediately stop all operations thanks to an emergency button, without switching the device off. In order to make the system even safer, two emergency buttons are available: one is placed on the remote control, while the second one is mounted on the box on board of the machine, which is connected to the valves; by pressing one of these two keys, any operation in progress is immediately stopped.

Some models allow to manage the TopCut function both automatically and manually. Thanks to the unlimited number of combinations and configurations available, the device is perfectly suitable for various applications. The wireless version of this remote control has four different channels which allows up to four separate systems to be used without the possibility of any interference, and is characterized by a reach of more than 50 mt; on the other hand, the cable version gives a higher level of safety for the operator, in case potentially dangerous moving mechanical parts are present.

All valve outputs are protected against short circuits and electrical problems; a protection fuse is also available against power supply inversions and overcharge. The device can work without problems, even when it undergoes strong vibrations and mechanical stress; in addition to that, the boxes are shockproof. In conclusion, assembling and disassembling the board on the machine for service or maintenance operations is easy and quick, because all the connections to the valves are made by means of removable terminal boxes.

**Remote Control Technical Features:**

- Mechanical keyboard
- ABS Housing
- Protection: IP65
- Size: L110 xH210 xW40  
(+6 mm in depth for the fixing support)
- Weight of the remote control: 330 g
- Display: Backlit LCD (2 lines, 16 characters per line)
- Display visible in full sunlight
- Memory: Eeprom Non-volatile
- Batteries: 2 rechargeable Lithium batteries (RF version)
- Battery autonomy: 10h
- Battery charge time: 5h
- Operating condition: -20°C to +60°C
- Relative Humidity: 95 %
- Power supply: From 11 to 28 Vdc
- Absorbed power: 5 VA during the charge of battery
- Transceiver: A868 MHz in FM
- Protection against radiofrequency interferences
- Elimination of power supply interferences and signalling of low tension
- In the cable version, the Power board directly provides the system with the power supply
- Consumption: 250 mA (with electrovalves not active)

**Power Board Technical Features:**

- Plastic casing
- Protection: IP55
- Size: L254 xH180 xW111  
(+ 6mm in depth for the fixing support)
- Weight: 3,000 g MAX
- Memory: Eeprom Non-volatile
- Operating condition: -20°C to + 50°C
- Relative Humidity: 95 %
- Power supply: From 11 to 28 Vdc
- Absorbed power: 5 VA during the charge of battery
- Transceiver: A868 MHz in FM
- Protection against radiofrequency interferences
- Elimination of power supply interferences and signalling of low tension
- Plug to connect the device to the machine battery
- Consumption: 250 mA (with electrovalves not active)  
Max 25 A (with active electrovalves)

**Accessories for Wireless TELE-RF:**



**Table Battery Charger to suit TELE-RF**

Table battery charger (220V) to suit TELE-RF remote portable display unit.

DESCRIPTION	PART NUMBER
Table battery charger to suit TELE-RF	AV50BC1



**Tractor Mounted Battery Charger to suit TELE-RF**

Stainless steel tractor mounted charger (12/24V) to suit TELE-RF.

DESCRIPTION	PART NUMBER
Tractor mounted battery charger to suit TELE-RF	AV50BC2

**Accessories for Cable Controlled TELE-RF:**



**Cable to suit TELE-RF**

DESCRIPTION	PART NUMBER
Cable to suit TELE-RF	TELERF1



**Mounting Plate to suit TELE-RF**

DESCRIPTION	PART NUMBER
Mounting plate to suit TELE-RF	TELERFP1