



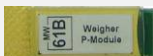
EMC ModWeigh MW61B Mk2 & Mk3[†] Weigher System

APPLICATIONS

- Silo/Tank weighing
- Batch weighing
- Platform scales

FEATURES

- Digital high accuracy design (no pots or DIP switches)
- Excitation for up to 10 x 350Ω loadcells
- 6 or 4 wire loadcell connection
- Update rate 100 times per second
- 4-20mA output
- Removable P-Module holds calibration settings



- Digital inputs (1, 4 or 8)
- Digital outputs (2, 4 or 8)
- Field software upgrades
- 12-24Vdc power supply
- Overall accuracy better than 0.05%

HOUSING OPTIONS

- MTxR DIN Rail mounting (IP00)
- MTxF Field housing (IP67)
- MTxG Field housing, Rail mounting (IP67)
- MT2x Size 110 x 80 x 70mm
- MT4x Size 170 x 80 x 70mm
- MT6x Size 170 x 80 x 70mm
- MT8x Size 230 x 80 x 70mm

OPTIONS

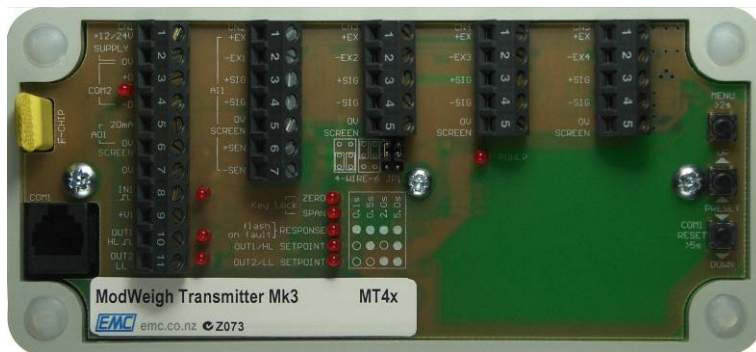
- ±5V excitation for safety barrier applications

[†] Mk3 Model Available end of 2006 (except MT8x models)

Application

The EMC MW61 Weigher Systems are state of the art weighing instruments that can be used with any loadcell based weighing system. The unit is fully digital with no potentiometers or DIP switches. The basic calibration is done by pushbutton on the unit, or full calibration facilities remotely by an EMC MW99 Weight Indicator.

When calibrated remotely, the calibration may be done by entering loadcell capacity and sensitivity which allows the calibration of systems without the use of test weights.



MW99 Weight Indicator

The EMC MW99 Weight Indicator display is a separate product which may be used with the EMC ModWeigh family of products for display of weight, setup and calibration. It has a graphics display with easy to use menu selection of settings.



Features

Inputs

Direct Calibration

Direct calibration uses the loadcell capacity and loadcell sensitivity to calibrate the weight signal. Large capacity weighing systems can be quickly and accurately calibrated without the need for large test weights.

Zeroing/Taring

The ZERO and TARE keys allow the weight reading to be set to zero. The SET TARE key allows a manual tare weight to be entered.

Signal Filtering

Filtering for the weight and other signals can be adjusted to get the optimum compromise between reduction of plant vibration and response speed.

Outputs

Analog Outputs AO1 & AO2

A 4-20mA output normally of weight may be programmed to be any of the internal signals including displayed weight, gross weight and net weight. The MT6x & MT8x transmitters optionally have a second analog output AO2.

ModWeigh I/O

The following table shows the I/O available for each of the transmitters available and also for the display.

		I/O available for each hardware type (& option required)					
		MT2x	MT4x	MT6x	MT8x	MW99d ¹	MW99p ²
Analog inputs	AI1 (loadcell)	•	•	•	•		•
	AI2 (4-20mA 0-10V)			MO2	MO2		MO5
Analog outputs	AO1 (4-20mA)	•	•	•	•		MO4/MO5
	AO2 (4-20mA)			MO2	MO2		MO5
Digital inputs	IN1 acquire zero	•	•	•	•		
	IN2 acquire tare			•	•		
	IN3 print			•	•		MO6
	IN4 capture weight			•	•		MO6
	IN5 print total				•		MO6
	IN6 reset total				•		MO6
	IN7 totalise				•		•
	IN8 hold flowrate				•		•
Digital outputs	OUT1 limit 1 output	•	•	•	•		
	OUT2 limit 2 output	•	•	•	•		
	OUT3 motion			•	•		
	OUT4 healthy			•	•		
	OUT5 net mode				•		MO6
	OUT6 at zero				•		MO6
	OUT7 weight fault				•		MO6
	OUT8 alarm alert				•		MO6
Communi-cations	COM1 (RS232)	•	•	•	•	•	•
	COM2 (RS485)	•	•	•	•	•	•
	COM3 (RS485)						MO7

¹ Options do not apply to units prior to serial number 24310.

² Future product

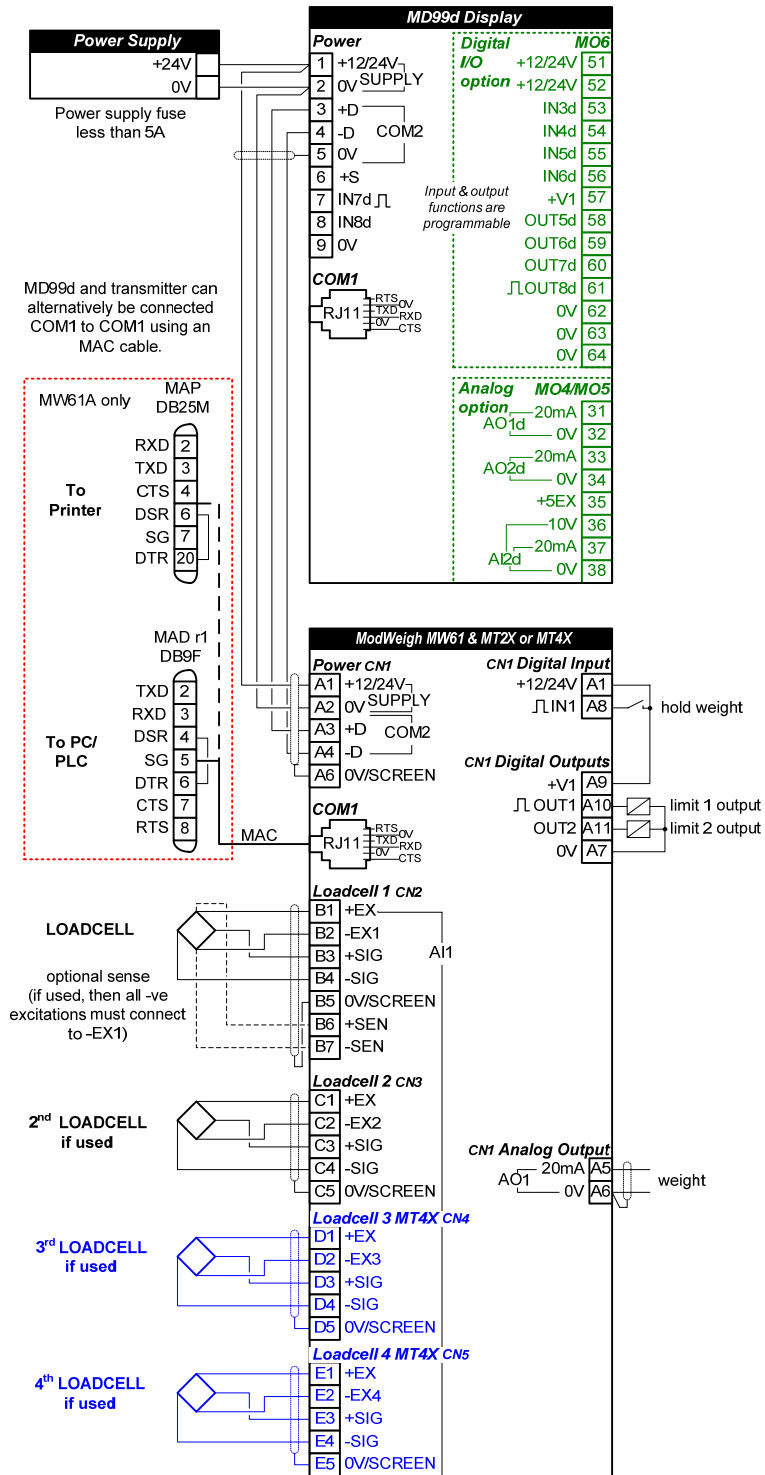
Specifications

Loadcell Input AI1	Input Range	±4 mV/V
	Excitation	8 Vdc ±10 %, 250 mA maximum current
	Signal processing rate	100 Hz (response time setting ≤ 0.5 s)
	Input sensitivity	0.5 µV/division maximum
	Zero range:	±30 mV.
	Zero drift	±0.3 µV+0.0005 % of deadload/°C typical.
	Span drift	±0.0005 %/°C typical
	Non-linearity	<0.002 % of FS
	Input noise	0.15 µVp-p typical
	Input impedance	>1000 MΩ.
	Sense input impedance	>100 kΩ
	Sense voltage range	3-10 V
	Analog Outputs AO1 & AO2	Output range
Maximum load		1000 Ω @ 24 V supply, 500 Ω @ 12 V
Resolution		1.5 µA
Response time		Loadcell response time setting + 20 ms
Voltage output		Use an external resistor to convert mA to volts. For example 500 Ω gives 10 V at 20 mA.
Non-linearity		< 0.01 %
Drift		< 1 µA/°C.
Analog Input AI2	4-20mA input resistance	47 Ω
	0-10V input resistance	> 1 MΩ
	Isolation (MO2 option) :	not isolated, all 0V terminals are common
Digital Inputs IN1..IN8	High voltage	> 8 V
	Low voltage	< 4 V
	Maximum voltage	32 V
	Input load	3200 Ω to 4800 Ω
	Input type	PNP output sensors
Digital Outputs OUT1..OUT8	Max output current	0.25 A
	Supply voltage	8 Vdc < +V1 & +V2 < 32 Vdc
Communications COM1 & COM2	COM1 Interface	RS232
	COM1 Handshake	CTS can be enabled
	COM2 Interface	RS485
	Baud rates	9600, 19,200, 38,400, 57,600 and 115,200
	Settings	8 data bits, no parity, 2 stop bits (8-N-1)
	Protocol	Modbus RTU
General	Housing	Polycarbonate UV resistant.
	Operating temperature	-10 to 45 °C
	Supply voltage	10 to 32 Vdc
	Power (transmitter)	2.5 VA @ 100 mA loadcell excitation current 4 VA @ 250 mA loadcell excitation current
	Power (display)	2 VA

Connections

Termination

Following is a typical weigher connection diagram.

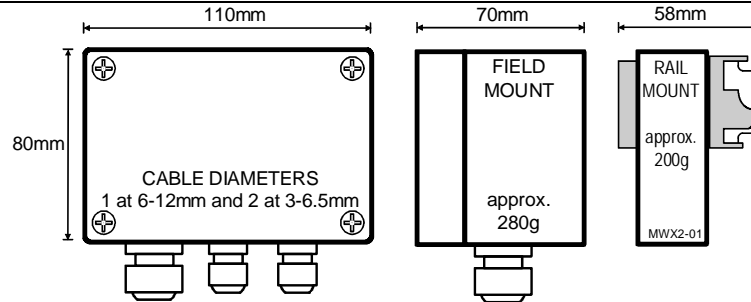


Dimensions

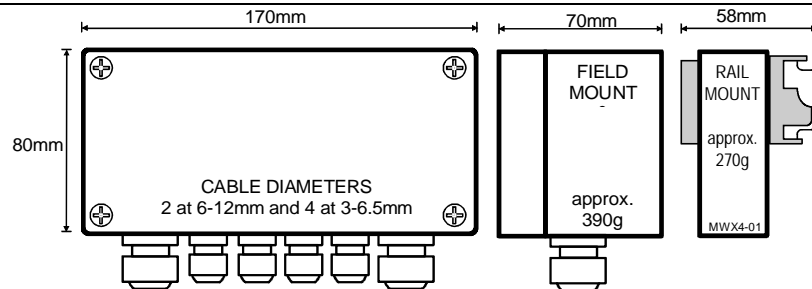
There are three basic container sizes for the four transmitter types. Each is available either for field mounting or rail mounting.

The display is designed for panel mounting.

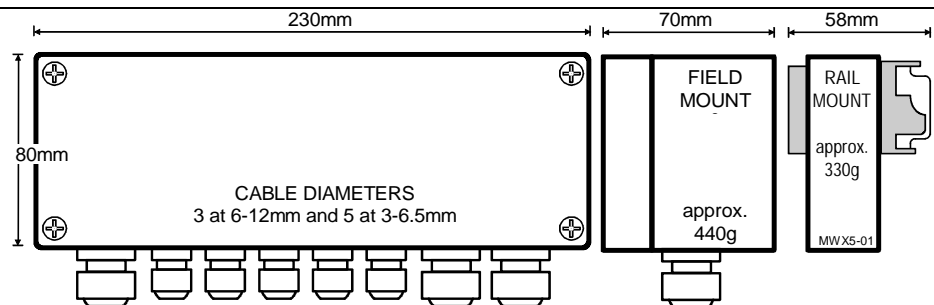
MT2x Transmitter



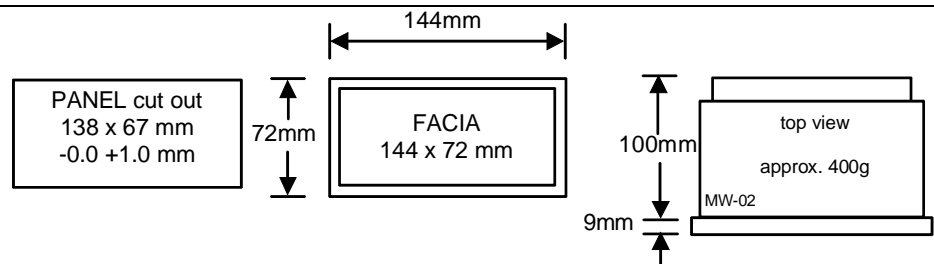
MT4x & MT6x Transmitter



MT8x Transmitter







MW99 Display



System Ordering

A ModWeigh system is a group of ModWeigh parts that together form the system. Many possible systems can be created, but most applications will use one of the systems listed below. When ordering, just specify the system order code. To create a custom system, specify the individual components required.

	System Order Code
2 loadcell terminals, 1 digital input/2 digital outputs, no display  MW61B, MT2X	M61B-20R rail mount M61B-20F field housing M61B-20G field housing, rail mount


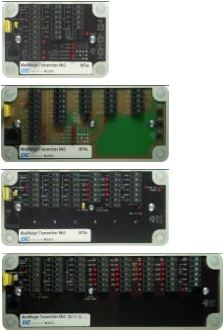
<p>2 loadcell terminals, 1 digital input/2 digital outputs</p>  <p>MW61B, MT2X, MW99d3, MAC</p>	<p>M61B-21R rail mount</p> <p>M61B-21F field housing</p> <p>M61B-21G field housing, rail mount</p>
<p>4 loadcell terminals, 1 digital input/2 digital outputs, no display</p>  <p>MW61B, MT4X</p>	<p>M61B-40R rail mount</p> <p>M61B-40F field housing</p> <p>M61B-40G field housing, rail mount</p>
<p>4 loadcell terminals, 1 digital input/2 digital outputs</p>  <p>MW61B, MT4X, MW99d3, MAC</p>	<p>M61B-41R rail mount</p> <p>M61B-41F field housing</p> <p>M61B-41G field housing, rail mount</p>

Parts Ordering

Following is a list of order codes for the individual parts of a ModWeigh system.

The transmitter order code (and options) are shown below. The display is ordered separately, and any accessories (cables etc).

A display is recommended to calibrate and commission a Weigher Transmitter. A typical order code list is **MW61A, MT4F, MW99d3, MAC, MAD** to provide a P-Module, a transmitter, a display, a cable and adaptor to connect to a PC.

<p>P-Module</p> 	<p>Product Module P-Module order code</p>	
	<p>Weigher</p>	<p>MW61B</p>
<p>Transmitter</p> 	<p>Transmitter I/O transmitter order code</p>	
	<p>2 loadcell terminals, 1 digital input / 2 digital outputs</p>	<p>2</p>
	<p>4 loadcell terminals, 1 digital input / 2 digital outputs</p>	<p>4</p>
	<p>2 loadcell terminals, 4 digital input / 4 digital outputs</p>	<p>6</p>
	<p>2 loadcell terminals, 8 digital input / 8 digital outputs</p>	<p>8</p>
	<p>Transmitter Housing</p>	
	<p>Rail mount</p>	<p>R</p>
	<p>Field housing</p>	<p>F</p>
	<p>Field housing Rail mount</p>	<p>G</p>
	<p>MT</p>	
	<p>Transmitter options transmitter option code list</p>	
	<p>Analog input/output AI2/AO2 (MT6x & MT8x only) ³</p>	<p>MO2</p>
	<p>±5Vdc loadcell excitation (for safety barrier applications) ⁴</p>	<p>MOE1</p>

³ May be fitted in field or ordered with transmitter.

⁴ Must be ordered with transmitter (it can not be fitted in the field).

Display



Display	display order code
Weight Indicator (2 digital inputs)	MW99d3

Accessories



Accessories	accessory list
RJ12 Cable 2m (COM1 cable)	MAC
RJ12 to 9 pin D-connector adaptor (ModWeigh to PC)	MAD
RJ12 to 25 pin D-connector adaptor (ModWeigh to printer)	MAP

Components & Spares

Components & Spares	
Transmitters	
MT2F/G field mount lid	MCL2x
MT4F/G & MT6F/G field mount lid	MCL4x
MT8F/G field mount lid	MCL8x
Displays	
Display without label	MC99dX
Weight Indicator display label	MC99L1
Flowrate Indicator display label	MC99L2
Pair of display mounting clips	BRK61P
Screw connector for MW99 power connector	TS17-9
Screw connector for MO6 option tplan	TS17-14

Other ModWeigh Products

EMC MW93 Weight Change Systems – for loss-in-weight and gain-in-weight flow control systems.

EMC MW95 Belt Weigher Systems – belt weigher processor for continuous flowrate measurement.

EMC MW96 Weighfeeder Systems – weighfeeder processor for continuous flowrate control application of a weighing conveyor.

Contact Details

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