

# ADW15 Load Cell Indicator



This intelligent self contained loadmeter is designed for use with strain gauge loadcells. Its wide range of functions and simple operation make the ADW15 ideal for use in industrial weighing applications. Options include set points, peak hold, serial communications and analogue output.

All set up functions are via the weather sealed keypad using a simple menu system. This compact, self contained loadcell instrument is available with a wide range of options including low voltage dc supply, whilst two way data communication allows for remote control of functions. Easy to program and use and able to power up to 4 x 350W loadcells, this loadmeter is used throughout industry in engineering applications with consistent and reliable results.

## Features

- Variable gain Strain Gauge sensitivity from 0.5 to 200mV/V
- Fully programmable via keypad & comms port
- 4.5 digit high resolution
- Excitation compensation
- 10V @ 150mA excitation to drive up to 4/350 ohm Strain Gauges
- Standard Strain Gauge input 100mS sampling rate
- Isolated inputs & outputs
- Programmable in flight compensation
- Auto calibration
- High noise immunity
- Peak Hold
- Auto zero (Tare)

## Outputs

- Analogue - Industry standard
- Relays
- Communications
- Printer Drive

## Options & Accessories

- A Fast (Peak & Trough) 10mS input version (FPT)
- Panel Mounting or Din Rail Mounting
- Supplies for 115/230 VAC or 9-32V DC
- Communications Outputs for Printer, PLC or PC
- IF25 Interface module connects up to 25 ADW15's to one RS232 port
- Printers DP data only and TDP for real time/date

## Input Details

Calibration	Automatic digital by use of keypad and 1 (or 2) known weights. Manual calibration can also be selected		
Auto Tare	By pressing keys '▶' and then 'R', display will zero. Auto tare value can also be viewed and manually changed if required. Auto tare value is retained on powerdown.		
Sensitivity	Preset via DIL switches between 0.5 to 200mV/V		
Excitation	10V DC nominal, 150mA maximum		
Compensation	By ± sense wires to compensate for cable, connection volt drops and any variation in 10V supply		
Accuracy	90 days ± 0.08% of reading ± 0.05% of FS typical		
Drift	0.002°C typical @ 2.5mV/V		

## DC Analogue Outputs

Code	Range	Code	Range
V02	0 to 5V	A01	0 to 1mA
V04	0 to 10V	A02	0 to 20mA
V06	-10 to +10V	A03	4 to 20mA
Max Current out 50mA		Max Voltage out 20V	
Accuracy	typical ± 0.08% of output, ± 0.08%FSD	Isolation	±130 RMS or DC max to analogue input or to any other port
Resolution	as display resolution, max 15 bits	Ranging	Fully keypad scalable over desired display range
Calibration	by 15-turn pre sets for gain and offset	PID	Power level when selected = 12 bit resolution
Inversion	By keypad code		

### Communication Port CP Operation

All display data can be accessed via the communications port along with relay and EEPROM status.  
All user configurable data can be changed including EEPROM enable/disable and relay reset. (address code cannot be changed).

Connections RS485/422	4 wire electronically isolated up to 32 units.
Connection 20mA Max	4 wire for 2 x 20mA isolated transmit and receive loops up and 25 units per IF25
Cable length	1 Km (depending on baud rate)
Baud rates	300, 600, 1200, 2400, 4800, 9600 (19200 MANTRABUS only)
Electrical Isolation	±130V RMS or DC max to analogue input or any other port
Format	MANTRABUS High Speed, high data integrity using checksum and ACK/NAK handshaking ASCII format for easy use and MODBUS RTU
RS232 to 20mA IF25 Interface	Connection to RS232 via separate IF25 interface which will support up to 25 ADW15's. Up to 10 IF25's. Can be directly wired together to support 250 ADW15's from one RS232 port.

#### Printer output RS232/422/485

The printer option utilises the communications board RS232 output.

With the output drive for a printer offering a Time/Date stamp and log number together with the label of units of measure, *or*  
With the output drive for a log number only, together with label of units of measure. A wide range of printer may be connected.

#### Control/Alarm Relay Outputs

Code	Type	Function	Relays	230V at 5A AC resistive.
R01	SPCO	1 relay on SP1	Isolation	±130V RMS
R02	DPCO	1 relay on SP1	Keypad	Programmable options: See configurable
R03	SPCO	2 relays on SP1 & 2		Parameters for Hysteresis, Latching, Output Inversion, Delay Times, PID values and Time Proportioning

#### Power Supplies

Code	Type	
W240	230V	AC 50-60Hz 10W
W110	115V	AC 50-60Hz 10W
W12/24	9-32V	12 & 24V DC 10W isolated
W24/48	18-60V	24 & 48V DC 10W isolated

#### Base ADW15

*Display* 7 segment LED 4.5 digit 10mm.  
3 x 3mm LED's 2 for relay status, 1 for program and hold indication.

#### Controls

4 membrane panel keys with tactile feedback. 1 scroll key to view/update parameter. 1 digit select key. 1 digit increment key. 1 reset key. Keypad disable by internal links behind front panel. Hold function by digit select key when in input mode.

#### Data Retention/Protection

Retention: 10 years for set up values, minimum of 100,000 write cycles.  
Protection of data and function(s): Watchdog timer giving repeat auto resets. Impending power failure detection and hold off. Keypad security and time out.

#### CE & Environmental

Storage temperature -20 to +70°C  
Operating temperature -10 to 50°C  
Relative humidity 95% maximum non stop condensing  
Safety/Low Voltage Directive 73/23/EEC amended by 93/68/EEC To IEC 1010-1:1990, EN 61010 - 1 - 1993  
EMC Directive 89/336/EEC  
Emissions EN 50 081 - 1 : 1992 (Light Industrial)  
EN 50 081 - 2 : 1992 (Heavy Industrial)  
pr EN 50 093 : 1991  
EMC Immunity EN 50 082 - 1 : 1992 (Light Industrial)  
EN 50 082 - 2 : 1992 (Heavy Industrial)

#### Physical

Case Dimensions DIN 72 x 72 x 163mm (excluding mounting terminal)  
Case Material Grey Noryl, flame retardant  
Weight 750 grams  
Terminals 2.5mm, saddle field terminals  
Accessibility All electronics removable through front panel leaving field wiring and case in situ.



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