DUX SG Process Instrument

LOAD CELL AND WEIGHING INDICATOR

(ALSO HANDLES STRAIN GAGE PRESSURE TRANSDUCERS!)

The **DUX SG** digital panel meter is designed specifically for use with load cell transducers and for high performance weighing applications. The **DUX SG** indicator has an 8-digit alpha-numeric display and feature ratiometric measurement technique and built-in transducer power supply. A novel micro-controller based analog-to-digital conversion method combined with automatic drift compensation ensures very high accuracy and stability. The 16-bit microprocessor used to control the **DUX SG** provides a wide choice of software features including offset zeroing, tare, peak hold, alarm functions and an extensive range of display features.

As standard, the **DUX SG** is fitted with an analogue output and two serial communication interfaces to permit connection to PLC's, computers and recording systems. Two digital inputs and four digital outputs (all optically isolated) are also provided for the control of external devices. The displayed value can be in tons, kilograms, grams, liters or other engineering units. In addition to weighing applications, the instrument may be used with strain gage based pressure transducers and the display programmed to display bar, kpa, psi or Mpa.

The standard **DUX SG** instrument is capable of driving up to eight 350 ohm load cells and is fitted with sense connections to compensate for long lead lengths. Various display functions are available to the user for diagnostic and calibration purposes –including a mV/V mode so that the output of a transducer may be displayed directly. This permits the user to calibrate an industrial application without the use of weights or pressure calibration instruments.

A sequence number generator and a real-time clock (Y2K compliant), permits time and date stamping of printouts, which are available via the RS232 or RS422/485 ports. (One RS232 port and one RS422/485 port are standard issue.)

FEATURES

- **Approved for trade use to 5000 divisions. (SA1332)**
- **Drives eight 350ohm load cells.**
- **Alpha-numeric display**
- **Serial communications**
- **Isolated analog output**
- **Digital inputs and outputs**
- ****Basic batch mode operation available**
- **Real-time clock**
- **Printout and totalizing capability**
- **Operation from 220/110 VAC or 12 VDC power source**
- **Tare and autozero**
- **Programmable engineering units**
- **Adjustable damping and display resolution**
- **Calibration effected from keyboard –no jumpers to set!**
- **Keyboard lock fuction**
- ****Modbus communication partially implemented -RTU**
- **No "extras" to purchase. Instrument comes complete with all hardware features as standard!**
- **Note: **** Indicates factory fitted option. Consult dealer for details.

SPECIFICATIONS

Power

Line Voltages	230 VAC standard 115 VAC optional
Frequency	50 or 60 Hz
DC Input	12V nominal, 11-14V variation 400mA maximum

Analogue Specifications

Excitation Voltage	6.0 ± 0.5VAC 8 x 350Ω or 16 x 700Ω load cells
Analogue signal Input Range	0.3mV/V – 3.0mV/V (up to 5mV/V workshop option)
Analogue signal Sensitivity	1uV/grad
Input Impedance	> 100MΩ
Internal resolution	Total 500 000 counts
Display resolution	100 000 dd
Measurement Rate	15 measurements/sec nominal
Input sensitivity	100nV per internal count
System linearity	Better than 0.01% of full scale
Zero stability	10nV/°C
Span stability	5 ppm/°C, maximum
Calibration method	Software, constants stored in EEPROM
Common mode voltage	±4V, referred to earth
Common mode rejection ratio	120dB minimum @ 50 or 60 Hz
Normal mode rejection ratio	90dB minimum @ 50 or 60 Hz
Input overload	±12V continuous, static discharge protected
RFI protection	Signal, excitation and sense lines protected by capacitor bypass.
Analogue output	0-20mA or 4-20mA, 14-bit resolution

Made in South Africa by MASSAMATIC (Pty) Ltd
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Environmental

Operating Temperature	-10 to +40 °C (legal) -10 to +50 °C (industrial)
Storage Temperature	-25 to +70 °C
Humidity	0 – 95% relative humidity

Digital Specifications

Microcomputer	Motorola MC912A64
Digital I/O	2 Inputs, optically isolated, current actuated 1mA min, 10mA max, 12V DC max. 4 Outputs optically isolated, MOSFET, 120mA max, 230 VAC (250V DC) max.

Serial Communications

Primary Port	Full duplex RS232 Baud rate selectable Parity selectable
Secondary Port	Full duplex RS422 Half duplex RS485 Baud rate selectable Parity selectable

Operator Interface

Display	8-digit LED display. 14-segment, 0.56in (14mm) digits.
Additional indicators	Designators for: Center of zero, motion, tare, alternate key function and status (1-4)
Keyboard	5-key, tactile feedback, flat membrane panel.

Enclosure

Dimensions (maximum)	163 mm x 85 mm x 130mm
Weight	1.1Kg (2.4lb)

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