



## M750 Display unit

### Description

The Spirax Sarco M750 is an intelligent digital panel display unit that is fully programmable from the front panel. It can accept inputs from a wide variety of sensors, and digitally processes and displays the relevant signal.

The M750 totaliser function enables non-volatile storage of the integrated total to be maintained within the unit, even after loss of power. The M750 is ideally suited as a display unit for use with Spirax Sarco flowmeters. It can provide an indication of flowrate and totalised flow for Gilflo, ILVA, DIVA, orifice plates and vortex flowmeters as well as providing a 24 Vdc loop power supply where required.

The M750 has Modbus RTU protocol using RS485 serial communications.

Up to two 'Option Pods' can be fitted to the M750 to provide the following functions:

- An isolated 4 - 20 mA retransmission pod.
- A pod with two normally-open relays.

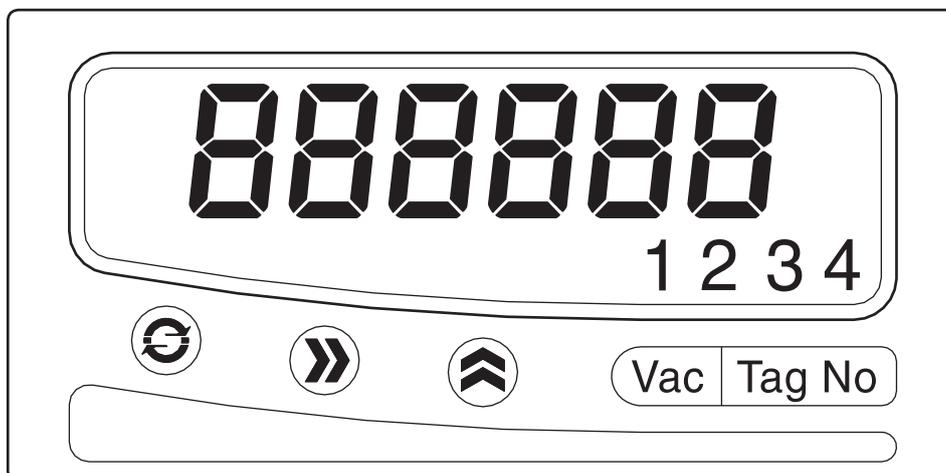
It is possible to have one or two relay pods, but only one 4 - 20 mA retransmission pod. The Option Pods can be selected to operate on Process Variable (Rate), or Total.

### Technical data

See pages 2 and 3.

### Weight

230 grams (0.5 lbs)



## Technical data (at 20 °C)

	90-264 Vac 50/60 Hz	
<b>Power supply</b>	90-253 Vac 50/60 Hz for compliance with LVD and UL	
	BS EN 61010-1 for connection to an installation over-voltage Category II supply (Pollution degree 2)	
<b>Power consumption</b>	10 VA (worst case)	
<b>Isolation (tested to)</b>	500 V	
	Supply to I/O 3 750 V	
<b>Relay supply</b>	BS EN 61010-1 for connection to an installation over-voltage Category II supply (Pollution degree 2)	
<b>Environmental</b>	IP rating	IP65 (front panel only)
	Ambient operating temperature	-30 to +60 °C (-22 °F to +140 °F)
	Ambient storage	-50 to +85 °C (-58 °F to +185 °F)
	Ambient humidity	10 to 90% RH
	EMC: Emissions and immunity	BS EN 61326
	Safety	BS EN 61010-1

## Universal input types

	Sensor	Sensor range and linearisation
<b>Sensor and Sensor range and linearisation</b>	<b>mA</b>	4-20 mA, $\pm 20$ mA, $\pm 10$ mA
	<b>RTD</b>	Pt 100, NI 120, custom
	<b>T/C</b>	K, J, T, R, S, B, N, L, B, E, Custom*
	<b>mV</b>	$\pm 100$ mV
	<b>Volts</b>	$\pm 10$ V, $\pm 5$ V, 1 - 5 V, $\pm 1$ V
	<b>Minimum span</b>	Any span within the range can be selected, but the recommended span is > 10% of range.
<b>Current input</b>	<b>Basic accuracy</b>	0.05% FS $\pm$ 0.05% of reading
	<b>Thermal drift</b>	200 ppm/ °C
	<b>Input impedance</b>	20 $\Omega$
	<b>Linearity</b>	Linear, X1/2, X3/2, X5/2, custom*

**A 19 V @ 25 mA isolated power supply is provided to power the current loop.**

\* Custom can be up to 60 co-ordinate pairs or up to 7 segments of 15<sup>th</sup> order polynomial.

## Communications

<b>RS485 Modbus communications</b>	The M750 has Modbus RTU protocol with RS485 serial communications as standard.
<b>Physical layer</b>	4 wire or 2 wire half duplex RS485
<b>Protocol</b>	Modbus RTU format
<b>Isolation</b>	500 Vac
<b>Maximum fan out</b>	32 units (this can be increased with repeaters)
<b>Termination standard</b>	RS485

## Option pods

The M750 has interchangeable output pods that are automatically recognised by the unit. The dual relay pod has two independent mains rated relays that can be configured for high or low alarms or pulse output. The isolated re-transmission pod provides 0-10 mA, 0-20 mA or 4-20 mA active or passive outputs.

### Dual relay alarm pod

Two independent mains rated relay outputs, which can operate as alarms or pulsed output

<b>Contacts</b>	2 x changeover relays with common	
<b>Ratings</b>	ac	dc
<b>Maximum load</b>	5 A @ 250 V	5 A @ 30 V (inductive load 2 A)
<b>Maximum power</b>	1 250 VA	150 W
<b>Maximum switching</b>	253 volts	125 volts
<b>Termination</b>	5 way tension clamp connector	

### Isolated 4-20 mA re-transmission pod

Isolated analogue retransmission for use with chart recorders, Building Management Systems, etc.

<b>Ranges</b>	0-10 mA (Active or Passive), 0-20 mA (Active or Passive), 4-20 mA (Active or Passive)	
<b>Minimum current output</b>	0 mA	
<b>Maximum current output</b>	23 mA	
<b>Accuracy</b>	0.07% FS	
<b>Maximum output load</b>	Active 1 K $\Omega$ Passive $[(V_{\text{supply}} - 2)/20]$ K $\Omega$	
<b>Maximum external supply voltage</b>	30 V (Passive mode)	
<b>Isolation</b>	500 Vac	
<b>Termination</b>	5-way tension clamp connector	

### How to specify:

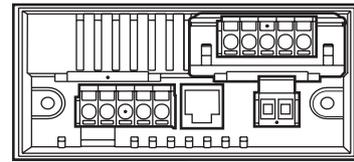
M750 panel mounted digital display unit that accepts all commonly used process signals. Designed to allow current retransmission or dual relay output option pods to be easily installed without the need for dismantling or recalibration.

### How to order

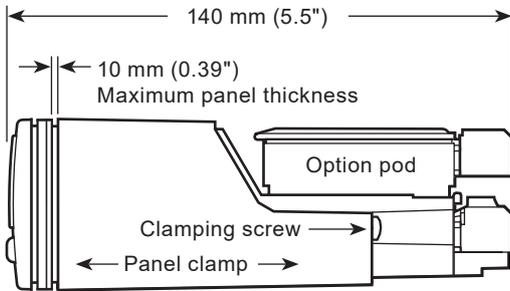
**Example:** 1 off Spirax Sarco M750 display unit complete with dual relay and 4-20 mA current retransmission option pods.

**Dimensions (approximate) in millimetres (inches)**

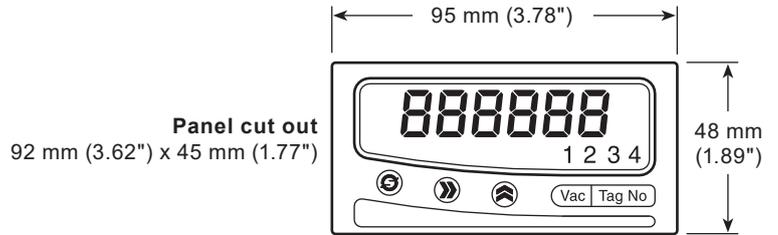
**Rear elevation**



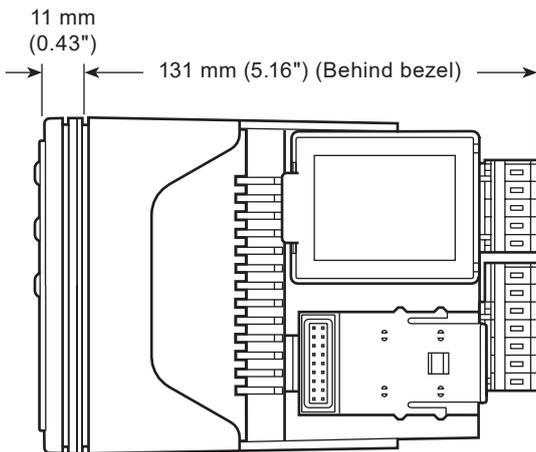
**Side elevation**



**Front elevation**



**Plan elevation**



**Option pod**

