

GENIE-M

The SIRCO™ **GENIE-M** Sampler is microprocessor based and features great flexibility in both the programming and operational function fields.

It is a mains powered, free-standing sampler and can be supplied to operate at a mains voltage to suit the available supply.

The Programming flexibility is enhanced by the use of a **REAL-TIME** clock, enabling the actual desired day, date and time to be entered (to the nearest minute), in parameters such as **DELAY**, **START** and **END TIME**. The interval between samples is selectable from 1 minute to 24 hours, in 1 minute increments with the time that the next sample is due to be taken being displayed.

SAMPLING PROGRAMMES

A total of four sampling programmes are available – one factory set programme – and three programmes which the user may set. These may be set to regularly used sequences in order to facilitate rapid on site installation (particularly important on these portable units which may be required to operate in several different locations with varying sampling parameters).

An additional programme is available if required. This is the **STAND-BY** programme, i.e. the Sampler 'stands by' until it receives a contact closure signal at the **EX-T** input before taking a sample, and then takes samples on a timed interval basis until the signal is removed.

Also, a **REVIEW** facility is provided, so that the parameters set in any programme can easily be checked.

Included as standard are facilities for operating from external equipment, such as a Flow Monitor. These consist of an **EXTERNAL TRIGGER**, which will accept a contact closure or open collector transistor output, and a 4-20 mA signal input.

Programmed into the **GENIE-M** Sampler is a **RE-TRY** function. This means that should the Sampler fail to take a sample at the first attempt it will try again. On the second attempt, the sampler adds 50% of the set Purge Time to the purge and vacuum duration. Should this second attempt fail, the sampler will make a third attempt – adding a further 50% of the set Purge Time. If this third attempt fails, the sampler shuts down to await the next sample initiation signal.

REMOTE CONTROL AND PROGRAMMING

GENIE Samplers are fitted with an RS232C interface, allowing communication between the Sampler Controller and a computer which has serial communications software (such as Windows Terminal) installed. The protocol used is simple two-wire and ground. The facility gives full remote control via the computer keyboard, including program and interrogate functions.

A 7 way weatherproof auxiliary connector is provided on the side of the cabinet allowing connection to a computer.



CONTROLLER OPERATION

The SIRCO™ **GENIE** Controller is a Microprocessor based unit with a 40 character x 4 line Liquid Crystal Display and 16 Tactile Keys with audible data entry.

The Controller is fitted with Lithium Batteries which are used to run the Real-Time clock and to retain programme data when the unit is off.

In the event of a 'DATA ERROR' display, the **STAND-BY** (if available) and three user programmes will be automatically set with the same parameters as the preset programme.

EX-T INPUTS

When the controller is set in the **EX-T** mode it can receive negative going pulses from external equipment. This requires the **EX-T** input to be grounded by the external equipment, using either a volt free contact closure from a relay or by sinking the voltage on the input of the controller using a transistor. When the **EX-T** counter is set to 1, the controller will operate the sampler each times it receives a negative going pulse. When set to 2 or more the counter will decrement each time it receives a negative going pulse until it reaches zero, when the controller will operate the sampler.

4-20mA INPUTS

When the controller is set in the **EX-T** mode and the 4-20mA option switched on, it can also receive a 4-20mA analogue signal from external equipment. When a 4-20mA signal is received the **EX-T** counter will count down from the user set number to zero. The speed of the counter and therefore the sampling frequency will be proportional to the mA input signal.

EX-T MODE DISPLAY

When the programmer is operating in the **EX-T** mode a typical display format would consist of the real time display and battery state indicator on the top line, as in the timer mode display. On the second line the display will show the number of the next sample to be taken and the **EX-T** pulse counter. This counter will count down from the **EX-T** counter number programmed in by the user, reset and initiate a sampling sequence upon reaching zero.

DISPLAY LANGUAGE

The readout for the Liquid Crystal Display is available in six languages as standard; other languages can be programmed in at the factory, if required.

The Six Standard Languages are:

- ✓ ENGLISH
- ✓ FRANCAIS
- ✓ ITALIANO
- ✓ DEUTSCH
- ✓ ESPANOL
- ✓ NEDERLANDS

This will normally be factory set if requested at the time of order, but can be programmed by the user as and when required.

SAMPLE CONTAINER OPTIONS

The GENIE-M Sampler can be supplied as either a Discrete or Composite Sampler, and has a removable 24 Jar shelf.

For Discrete Sampling options we can offer 24 x 500ml, 24 x 1 litre or 4 x 2 litre Sample Bottles.

For Composite Sampling options we can offer various sizes of Composite Container from 5 to 25 litres.

OPTIONAL EXTRAS

The GENIE-M Sampler can also be fitted with several additional items depending on operational conditions. These include Refrigeration (for sample containers), Heater & Thermostat (frost protection/anti-condensation in the sampling unit), and Ball Valves (for sampling from a pressurised source).

SPECIFICATION

CONSTRUCTION

Enclosure	- GRP weatherproof cabinet with two separate compartments
Metering Chamber	- Plexiglass
Metering Chamber Top	- Moulded Nylon with built-in protective check valve
Suction Tubing	- Reinforced Black PVC 10mm ID x 16mm OD, 7.5 metres supplied
Electrode	- 316 Stainless Steel
Electrical	- 110 vac 2 amp max. 50-60Hz (3 amp max. with refrigerator) 230 vac 1 amp max. 50-60Hz (2 amp max. with refrigerator)
Solids – Max dia. Pump	- To inside diameter of the suction tube
Vapour Shield	- Heavy-duty vacuum/pressure diaphragm pump
Weight	- Separate compartment
Dimensions	- 75 to 85 kgs depending on equipment fit
Biological Stamping	- 1610mm x 585mm x 585mm (height x width x depth of cabinet)
	- Refrigerated option available

OPERATIONAL

Sample Volume	- Adjustable from 25 to 500 ml
Sample Measuring	- Transparent metering chamber
Sampling Speed	- 6 litres per minute (100ml per second)
Sampler Lift	- Up to 7.5 metres
Suspended Solids	- Up to 10mm diameter
Sample Volume Adjustment	- Single sliding metering tube
Pre-Sampling Purge	- High pressure 14 psig
De-Plugging Purge	- Automatic 'on-call' whenever plugging occurs
Suspended Solids Loss	- None
Language	- Alternatives available
Data Retention	- Operational status retained if power is interrupted
Interrogation	- Programming review facility
Sampling Programme Interval Timer	- 1 minute to 24 hours in 1 minute increments

Sampling Programme External Trigger	- Flowmeter (proportional) contact closure or 4-20mA signal
Sampling Programme Termination	- User programme or on completion of 24 jar cycle
Sample Programming	- Three standard user programmable and one preset
Sample Overflow Protection Internal Corrosion Protection	- Mounted in metering chamber top
Servicing	- Pump exhausts through bulkhead to the outside of enclosure
Warranty	- 2 wing nut assembly gives access to metering chamber
	- The Samplers carry a warranty of 1 year on materials and workmanship

SIRCO™ CONTROLS LIMITED
SWEYNES INDUSTRIAL ESTATE
ASHINGDON ROAD
ROCHFORD
ESSEX
SS4 1RQ

Tel: +44 (0)1702 545125
Email: info@sirco-controls.co.uk

