



SC9-Ex

Hazardous Area Sample Controller



Introduction

The SC9-Ex is a low cost hazardous area controller designed for the control and monitoring of a flow proportional in-line sampling system in accordance with the API 8.2 sampling standards. Typical applications are pipeline and terminal duty for tanker loading/ discharge and other custody transfer applications for liquid and gaseous hydrocarbons.

The SC9 is a flow proportional sample controller designed for use with in-line (insertion probe) based systems. The sample probe is actuated by a flow proportional 'grab' control signal generated by the SC9 ensuring that the batch sample is representative of the whole batch. The Jiskoot SC9 controller uses a flow meter input in conjunction with the batch volume entered by the operator and desired sample volume to determine the sample actuation frequency.

The SC9 can be configured to control and monitor in-line sampling systems with one or two sample receivers. In systems with two receivers the controller will automatically select the second receiver once the first one is full. The Jiskoot SC9 also incorporates an auto-stop feature to prevent over-filling of sample receivers.

The SC9 is easy to use; the operator simply enters the batch volume and presses the run button. The controller will perform all the necessary calculations to determine sampling parameters and achieve the correct sample volume for analysis. Sampling of the batch can be stopped at any time either from the front panel or via a remote stop button. The SC9 has a large easy to read six-digit LCD display and is controlled using four heavy

duty buttons on the front panel which can also be wired to a remote location.

During the sampling process the operator can view live flow information and any alarms are displayed on the LCD screen. The SC9 has two levels of security (controlled by a remote switch) and has error codes to aid diagnosis in the unlikely event of a fault. In the event of power failure all set-up and batch/sample totals are retained by the SC9 in non-volatile Ram.

The SC9 can also be used to drive 'open-loop' flow proportional injection pumps

Features

- Low cost controller for sampling applications
- Large, easy to view display
- Simple to operate
- Remote Start/Stop
- Can be configured for use with one or two receiver sampling systems
- Automatic sample receiver change-over
- Emergency stop when receivers are full to prevent over-filling
- Batch auto over-run facility – allows small errors in batch volume entry

Sampling in compliance with API 8.2 (If compliance with ISO 3171 and IP 6.2 are required then a controller with performance monitoring, such as the Jiskoot InSight, is needed.)

Data Sheet SI I 5-0405-2 • SC9-Ex Hazardous Area Sample Controller



Specification

Operator Interface

Display	6 Digit 0.7" (17.8mm) high Liquid Crystal Display
Data Entry	4 Push Buttons
Data Retention	All set-up and totalisers are held in non-volatile memory with 10 years minimum data retention

Utilities

Power Supply (AC or DC)	AC	95 - 135V AC or 190 - 260V AC 50/60 Hz (Set internally)
	DC	11.5 - 28.5V DC
Power Consumption	Nominal 5 Watts	

Inputs

Analogue (Flow) – Optional Extra	Input Range	Isolated 4-20mA, 0-20mA or 0-10V DC
	Input Impedance	Current : 10 ohms + PTC 10 ohms Voltage : 5×10^6
Pulse (Flow)	Input Range	0 to 10 kHz (Min. 0.25 Hz for rate)
	Scaling Range	0.1 to 50,000
	Input Types	Voltage free contact, Open Collector or TTL Logic
Digital	Remote Run, Display, Batch Set & Stop/Reset	

Outputs

Transducer Supply	8 to 24V DC (50mA max.) – Field adjustable	
Grab Output Relay	Max. No. Of Grabs	10 to 50,000
	Max. Grab Rate	60 grabs per minute
Receiver Change Relay		
Relay Specification	Max. Switched Voltage	250V AC or 30V DC
	Max. Switched Current	5 Amps – Resistive or 1.5 Amps Inductive
	Max. Switched Power	1250VA

Approvals

Electrical Approvals	ETL (US) approved to UL 508 & CSA CE Compliance
----------------------	--

Enclosures

Hazardous Area	Type	EEx d IIB T4 @ -40 to +60°C NEMA 7X Class I Div. I Groups C & D CENELEC, FM, CSA & SAA enclosures available
Safe Area	See data sheet SC9	

Environment

Operating Temperature	-20°C to 60°C
Humidity	Max. 95% Non-Condensing

	UK	USA	Cameron	Jiskoot Quality Systems
	Jiskoot Quality Systems	Jiskoot Quality Systems	Measurement Systems	A Cameron Company www.jiskoot.com
	Tel: +44 (0)1892 518000 Fax: +44 (0)1892 518100	Tel: +1 281 583 0583 Fax: +1 281 583 0587	Tel: +1 281 582 9500 Fax: +1 281 582 9599	 www.c-a-m.com/flo
	Email: ms-jiskootu-sales@c-a-m.com	Email: ms-jiskootu-sales@c-a-m.com	Email: ms-marketing@c-a-m.com	