

DS405 Lubrication Monitor

Multi-function



General

The DS405 is a completely new dedicated product for the monitoring of automatic oil or grease lubrication systems. The DS405 is a highly configurable product that can be used on Oil Recirculation Systems and Total loss Oil or Grease Systems respectively.

Oil Recirculation Systems are real-time monitoring of the flow rate of oil, typically through a oval gear flowmeter. The DS405 records and displays the flow rate delivered per channel.

Total Loss Oil or Grease Systems are time based and monitor the accumulative flow of a lubricant, typically through an oval gear flowmeter. Unlike the Oil Recirculation system the Total Loss System is likely to have significant interval periods between each cycle. The DS405 records and displays the total lubricant delivered per channel and provides the end user with reliable, expandable, and accessible data capture.



Application

The DS405 operates in any of these typical applications:

- +Continuous
- +Steel Strands
- +Pulp & Paper
- +Water
- +Waste Treatment
- +Food Process
- +Assembly Lines
- +Conveyor

Technical Data

GENERAL DETAILS	
Type of system	Oil Recirculation, Total Loss Oil, or Total Loss Grease
Industry type	Heavy Industrial and Light Industrial
Unit dimensions	W: 234 mm H: 313 mm D: 126 mm (9.2"x12.3"x5")
Unit weight	6 kg (13 lbs.)
Unit enclosure material	PVC
Unit enclosure rating	IP56 (Nema 4X)
Ambient operating temperature range	-10 C to +55 C (14°F to 131°F)
ELECTRICAL DETAILS	
AC input power supply range	85-265VAC, 50/60Hz Universal input 0.85 amp
AC input power supply protection	2 amp
Control voltage power supply	24VDC
Control voltage power supply protection	1 amp
System grounding	6mm chassis stud
Terminal connections	Screwless spring clip Wago 737 series max 2.5 mm
Alarms volt free contacts	1 x Warning, 1 x Fault
Alarms volt free contacts rating	5 amp @ 230VAC
Fuses (Control circuit only)	2AT 20 mm
ADJUSTABLE RANGES	
Pulse volume	Cycle, Liter, Milliliters, cm ³
Static signal input	High tank level, low oil pressure

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Features and Benefits

A pair of global alarm and warning relay outputs are available on either High, Low, or High/Low flow rates. Each channel can be individually configured.

- + Low flow rate alarm prevents a bearing being starved of lubricant and failing
- + High flow rate alarm prevents the overfilling of bearings and lubricant spilling out
- + 24 Input channels with capacity for high speed pulses per second - up to 200 pulses per second
- + Choice of 3 Monitoring modes: Flow rate, Total loss, or Static per channel
- + Large Graphic Display for ease of setup and clear monitoring status
- + 2 Volt-free change over relay common outputs: 1 for warning and 1 for fault
- + Programmable warning and alarm levels for each channel
- + Real-time clock with warning and alarm data logging up to 1000 events
- + USB port for downloading events i.e. log and monitor set up, uploading of monitor set up etc
- + Optional Bluetooth Module - allowing parameter transfer via USB as above.

Conformance

The DS405 is designed to conform to:

- + Low voltage directive 2006/95/EC
- + EMC directive 2004/108/EC
- + RoHS directive 2002/95/EC
- + Storage Temperature -40°C to +85°C (-40°F to 185°F)
- + Operating Temperature -10°C to +55°C (14°F to 131°F)
- + Environmental Rating - IP55

Refer to the following datasheets:

- + *Datasheet #35978:*
Lube Point Monitor

How to Order

Name	Part #
DS405 Lubrication Monitor (Standard Unit)	95408
DS405 Lubrication Monitor (Bluetooth Unit)	95409
Mounting Bracket Kit (Optional)	95410

When ordering, specify by name and part number, e.g. DS405 Monitor, Part #95408.

Service Parts

Name	Part #
DS405 Replacement Shell	95415

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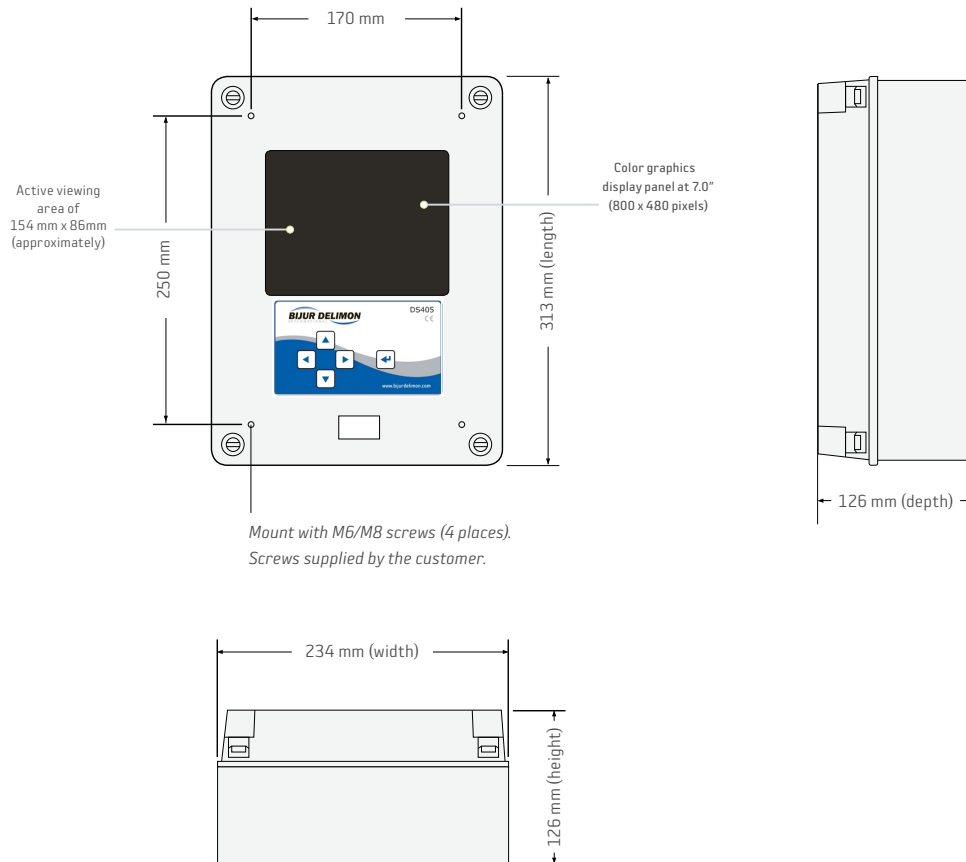
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Dimensional Schematics

Measurements shown in Millimeters.



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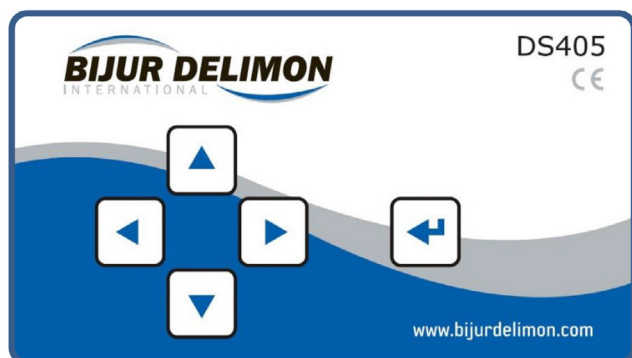
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Operation

The DS405 has a user friendly interface and keypad that consists of 5 momentary push-button switches arranged in a physical format as follows:



-  Enters menu and set key
-  Increment parameter or navigates up
-  Decrement parameter or navigates down
-  Select digit in numeric field or navigates right
-  Select digit in numeric field or navigates left.

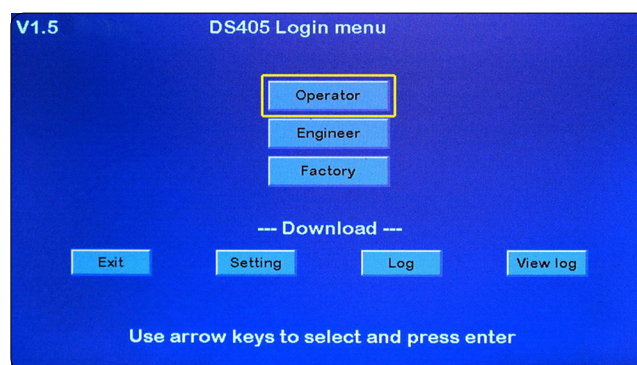
Programming and Display Information

There are 3 different levels of system programming and 3 mode screens on the DS405:

NORMAL RUNNING MODE - status screen

DS405 Status				17:28 31-07-14
Channel	Rate/min	Label	Total	
1	616.2mL	Compressor Z1		
2	632.4mL	Compressor Z2		
3	627.0mL	Compressor Z3		
4	621.6mL	Compressor Z4		
5	27.0mL	Conveyor A1 Zone 1	525.5L	
6	32.4mL	Conveyor B1 Zone 1	539.7L	
7	Interval	Mixer Station K	153.0L	
8		Lubricant Tank 1 Low		
9		Lubricant Tank 2 Low		
10		System demand from PLC		
11		Unused		
12		Unused		

NORMAL RUNNING MODE - channel setup



NORMAL RUNNING MODE - event / alarm screen

Alarm					11:37 01-08-14
Chan	Label	Fault	Time	Date	
8	Lubricant Tank 1 Low	Static	11:36:29	01-08-14	
7	Mixer Station K	Fault low	11:33:47	01-08-14	
9	Lubricant Tank 2 Low	Static	11:23:26	01-08-14	
1	Compressor Z1	Warn low	11:19:28	01-08-14	
	System event	Power on	11:16:49	01-08-14	
	System event	Power off	11:16:00	01-08-14	

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