TECHNICAL DATASHEET

PROTÉGÉ ZM SINGLE GAS MONITOR

DESCRIPTION

The Scott Safety Protege ZM is an easy-to-use, zero maintenance single gas monitor for the detection of Oxygen (O_2), Carbon Monoxide (CO) or Hydrogen Sulphide (H_2S). Weighing only 76.5g the Protégé ZM delivers high performance in a small package.

Using default settings, the Protégé ZM is ready-to-use right out of the box with no programming required and will operate for 2 years, maintenance and hassle free.

The Protégé ZM is IP 66/67 rated and features a high visibility red, absorbent housing making it ideal for use in high dust and moisture rich environments. Safety features include 3 bright red LED alarm bars, 95dB audible alarm and vibrating tactile alarm.

Protégé ZM features one-button activation, event logging, adjustable alarm settings and a customisable LCD display capable of displaying remaining service life, real time gas readings or both. The carbon monoxide and hydrogen sulphide models feature hibernation mode, which can be extend the battery life up to one additional year.

The Protégé ZM monitor is supported by a portfolio of accessories including a four-bay test station and IR connect programmer. The test station is available in both portable and table-top versions with simple two-button operation and intuitive design enabling you to be up and running in no time.

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TECHNICAL DATASHEET

TECHNICAL SPECIFICATIONS

Physical Characteristics	
Size	9.40cm H x 5.60cm W x 3.30cm D
Weight	76.5g
Case Material	Impact absorbant rubber overmould.
Environmental Protection	IP 66 / IP 67 for dust and water ingress (3rd Party Certified)
Carrying Attachments	Stainless Steel Alligator clip
Primary Colour	High Visibility Red

User Interface	
Display Type	Liquid Crystal Display (LCD)
Visual	Continuous visual display, no user interaction required
Display Info	Time Remaining (Default) or Gas Reading (Optional) or both (Optional), Gas Type, Functional Test Validation, Bump Test Due Indicator, Battery Level
Buttons	1 Button operation on front of unit
Bump Test	Display will indicate "BUP" if bump test is required (user configurable)
Calibration Test	Display will indicate "CAL" if calibration is required (user configurable)
Self Test	Display will indicate "TEST" if self test is required (user configurable)
Confidence Beep	No

Monitoring Capability	
Sensor Types Configuration	Single Gas monitoring: CO, H_2S, O_2
Sensor Ranges	CO: 1 - 300 ppm in 1 ppm increments H_2S: 1 - 100 ppm in 1 ppm increments O_2: 1.0 - 30.0% Volume in 0.1% increments
Instrument Activation	Activation by pressing and holding button on front side

Power	
Battery Type	Lithium Ion battery
Battery Life Indication	Indication of estimated remaining battery life
Battery Life	2 Years
	Use of Hibernate Mode can extend battery life up to one additional year on CO and H_2S models

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TECHNICAL DATASHEET

TECHNICAL SPECIFICATIONS

Alarms	
Visual Alarm	3 Red LED Bars
Audible Alarm	Alarm rated at 95dB @ 15cm
Vibrating Alarm	High vibrating tactile alarm
Alarm Set Points	Default settings pre-programmed Customised settings from factory are available Settings user configurable via software and the IR Connect or Test Station accessories CO: Alarm 1: 35ppm Alarm 2: 200ppm H_2S: Alarm 1: 10ppm Alarm 2: 15ppm O_2: Deficiency: 19.5 Vol% Enrichment: 23.5 Vol%

Calibration	
Calibration Recommendation	O_2: Monitor default reminds user to calibrate every 30 day (user configurable) CO, H_2S: Monitor default does not require calibration (user configuarable) Calibration possible if bump test fails
Calibration Set Points	Default settings pre-programmed CO: 100ppm H_2S: 25ppm O_2: 16% Vol Settings user configurable via software and the IR Connect or Test Station accessories
Calibration Tools	Manual calibration: Calibration adaptor, calibration gas cylinder, regulator Automated calibration: Portable or stationary Test Station

Data Storage	
Event Logging	Standard feature, up to 25 events
Record Content	Serial Number, Valid Bump Test, Life Remaining, Number of Self Tests Performed, Number of Events, Alarm Condition, Specific Event Date and Time, Peak Gas Reading.
Data Retention	Backup to PC
Data Transmission	Infrared

Certifications	
Intrinsic Safety Approval	IECEx Ex ia IIC T4 Ga IP 66/67 - 3rd Party Certified
Intrinsically Safe Approved Temperature Range	-30°C to 50°C (C0) -40°C to 50°C (H_2S) -50°C to 50°C (O_2) IS approved temperature may not reflect the operating temperature
Operating Temperature Range	H_2S, CO, O_2: -10°C to 50°C

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TECHNICAL DATASHEET

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Environmental	
Humidity	5 - 95% RH Non-condensing
EMI/RFI	EMC Directive (2004/108/EC)

Maintenance & Warranty	
Maintenance	No maintenance required. Sensors and battery not field replaceable
Warranty	O_2, CO, H_2S: 2 years of operation or for 3 years from date of shipment, whichever occurs first Assumes 4 minutes of alarm per day

Supported Operating Systems	
Microsoft	Windows XP, Windows Vista, Windows 7

Product Software	
Protégé ZM Firmware	Field upgradeable. Firmware updates available via website
Software	Protégé ZM software on product CD (updates available via website)

Accessories included with each Protégé ZM	
Stainless Steel Alligator Clip	Attached at factory
Calibration Cup	For manual bump testing and calibration
Quick Start Guide	Printed card
Product CD	Mini CD format with complete user manual and translations. Declarations of Conformity, IR Connect Software, Test Station Software

Optional Accessories	
Test Station - Portable	Protégé ZM Portable Test Station, 3rd party approved
Test Station - Stationary	Protégé ZM Stationary Test Station, 3rd party approved
IR Connect	Protégé ZM IR Connect, 3rd party approved

SCOTT SAFETY

TECHNICAL DATASHEET

WARNINGS

Only use the Protege ZM to monitor the atmosphere for the gases and concentrations for which it is set-up to detect. Bump testing should be performed periodically taking into account instrument use and environment conditions. Bump test with known target gas at start-up and check on a regular schedule. The instrument should always be re-calibrated after exposure to high concentrations of toxic or combustible gases or vapours or if a bump test fails.

To ensure proper readings, do not operate the instrument within 30 – 60cm of a high-powered portable radio. The radio keying resulting in reading fluctuations as well as alarm & vibration activations. If this does occur, perform a bump test prior to putting back into service.

APPROVALS

IECEx d ia IIC T4 Ga
IP67 Rated (third party certified)
EMC Directive (2004/108/EC)
CE Mark
UL 913 7th Edition Class 1, Div 1 & 2 Groups A, B, C, D:T4
ATEX II IG Ex ia IIC t4 Ga

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
096-3459-01	Protégé ZM Single Gas CO Monitor
096-3459-02	Protégé ZM Single Gas H_2S Monitor
096-3459-03	Protégé ZM Single Gas O_2 Monitor
096-3467-01	Portable Test Station
096-3467-02	Bench Top Test Station
093-0588	IR Connect (Assembly and Cable)
077-0272	25ppm H_2S Calibration Gas 34L
077-0246	100ppm CO Calibration Gas 103L
077-0039	16%Vol O_2 Calibration Gas 103L

MAINTENANCE/CLEANING

Maintenance: Use only original spare parts. Prior to use ensure the gas inlet ports are free from dust and debris. Prior to use perform a bump test to check the accuracy of all sensors. Verify readings are within a predefined range typically + - 10% of the calibration gas concentration. If readings are outside of the predetermined range repeat bump test. If second bump test fails calibrate the gas monitor.

Cleaning: Do not use any solvents, chemicals or polishes to clean the instruments. Grit and dirt need to be removed using a cloth that is slightly dampened with water.

STORAGE

Storage: 0°C…+20°C, and at less than RH 75%.

DISPOSAL

Please see local authority regulations for disposal advice and locations.