

Schützen

SP-MGT4-CO2

O₂, H₂S+CO, CH₄+CO₂



Schützen SP-MGT4-CO2



The Schützen SP-MGT4-CO2 gas detector is highly regarded for marine applications, offering reliable performance in confined space entry, inert environments and cargo monitoring while meeting IMO regulation MSC.581(110).

Gas Detection for Inert Entry

In some industries, particularly the petroleum or oil/ gas industry, reactor vessels are intentionally flooded with an inert gas such as Nitrogen, to ensure the vapour space is too low to support combustion. Nitrogen is not itself a toxic gas, but it displaces the Oxygen. So, a purged gas environment, although it eliminates the chance of fire or explosion, produces a very real threat to human life.

Schützen SP-MGT4-CO2 with a pump built in are suitable for pre-inert entry work. They allow for easy sampling up to 23 meter of prior to entry, and if used during work in the vessel they will result in quicker response.

The SP-MGT4-CO2 is designed with Infra-red sensor, where the infra-red beam will be broken by intruding gas and it is not affected by a lack of oxygen. It's all-in one.

Gas Detection for Cargo Monitoring & Confined Space Enter

Examples of Cargo Monitoring Scenarios:

Vessels: Monitoring for gas leaks or changes in gas concentrations in cargo holds, engine rooms, or other enclosed spaces on ships.

Storage Facilities: Monitoring oxygen levels, flammable gases, and toxic gases in warehouses or storage areas to prevent accidents or fires.

Confined Spaces: Assessing the safety of entering confined spaces within cargo facilities, ships, or trucks before personnel enter comply with IMO MSC.581(110).



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KEY FEATURES

- **Multi-gas Detection: Comprehensive monitoring of multiple gases.**
- **Sampling Type with Embedded Pump & Probe: Accurate gas sampling in various environments.**
- **Real-time Monitoring: Instant feedback on gas concentrations.**
- **IP67 Rating: Water and dustproof for rugged use.**
- **High-performance Alarms: Visual, audible, and vibration alerts.**
- **Event Log: Records up to 30 events for easy tracking.**
- **IrDA Communication: Easy data transfer and management.**
- **Explosion-proof Certification: Complies with global safety standards.**
- **Pump Blockage Alarm: Alerts for pump blockages.**
- **Filter Contamination Check: Visual inspection for filter status.**
- **Three-button Operation: Simple and user-friendly controls.**

Extracted from MSC 110/21/Add.3 Annex 28, page 1
The IMO recognizes that many enclosed space accidents stem from a failure to systematically identify hazards, assess risks, and implement appropriate entry procedures. Investigations further highlight that the complex structural arrangements of certain spaces can hinder ventilation, illumination, and safe movement. Organizational leadership ashore and on board plays a critical role, particularly in empowering personnel to stop unsafe operations and make informed decisions to prevent accidents. Recent casualty trends underscore the ongoing need for improved risk assessment practices and increased awareness of CO₂-related hazards. The IMO Sub-Committee on Carriage of Cargoes and Containers (CCC 10) developed amendments to Resolution A.1050(27) in 2024 to combat the continued loss of life resultant from the hazards of enclosed space entry. These revisions were adopted by the 110th session of the Maritime Safety Committee on 27 June 2025 through Resolution MSC.581(110), and finally endorsed by the 34th Assembly on 3 December 2025, which formally revoked A.1050(27). The new resolution introduces a more comprehensive and structured approach to enclosed space entry, including new definitions, strengthened atmospheric testing requirements, enhanced responsibilities toward shore personnel, and updated emergency preparedness measures.



Schützen SP-MGT4-CO2



IRDA Communicaiton Link
(Purchase separately)



Sample Calibration Certificate

Calibration Certificate

Calibration Date : 2025-05-17

1. Product Name : MGTP

2. Serial Number : SQ0522285

3. GAS Lot# : 1188776

4. Result : Pass

	O2(%)	CO(ppm)	H2S(ppm)	LEL(%)		CO2(%)
Cal Conc	18.0	100	25.0	50	-	2.00
Reading	18.0	100	25.0	49	-	2.00
Low Alarm	19.5	30	10.0	10	-	0.40
High Alarm	23.0	60	30.0	30	-	0.80
STEL Alarm		200	15.0		-	1.00
TWA Alarm		30	10.0		-	2.00

Calibrated by : Tony

Approved by : Celina

KEY FEATURES

- ✓ **Zero and Span Calibration, Bump Test:**
Performs calibration and bump tests to ensure proper SP-MGTP(Pump) device function.
- ✓ **No need multiple calibration gas cylinder:**
Able to calibrate all 5 gases range with just 1 cylinder of “5 in 1” calibration gas.
- ✓ **No Separate Pump Required:**
Utilizes the SP-MGTP(Pump) device’s internal pump, eliminating the need for an additional pump.
- ✓ **Real-time Status Indicators:**
Power and unit LEDs provide immediate operational feedback.
- ✓ **Gas Ventilation System:**
Removes residual gas, ensuring a safe and clean environment.
- ✓ **Event Log Storage:**
Saves calibration and bump test logs for easy access and analysis.
- ✓ **User Configuration:** Adjust settings via IR Link for flexible configuration.
- ✓ **Portable (Battery and Power Options):**
Built with rechargeable battery, able to carry to field for bump test and back to use external power on desktop.
- ✓ **Compact and Lightweight:**
Easy to transport and use on worksites for efficient device management.

Specifications & Ordering Information

PART NO	PRODUCT
Schützen	
AAA104168	Schützen SP-MGT4-CO2, O2, CO/H2S, CH4/CO2(IR)
Gas Test Station	
AAA108000	Schützen SP-MGT4-CO2 Calibration & Certification Station
AAA108000-01	Schützen Demand Flow Regulator
AAA108000-02	Schützen 5 in 1 Calibration Gas (O2/H2S/CO/LEL/CO2) 58L
Accessories	
AAA005000	IRDA Communicaiton Link with the mini USB cable
2NDAS000-10M,20M,30M	Schützen Sampling Tubing 10M, 20M, 30M c/w adapter fits MGTP
AAA107000	Schützen Sampling Probe Package (Sampling Probe, Syringe Filter(3pcs), Tube)
AAA108000-03	SP-MGTP4-CO2 Manual Calibration Kit Consist of demand flow regulator, 5 in 1 Combi Calibration Gas58L, 1 inlet adapter/50cm tubing adapter to gas /50cm 1 x Simple Cal Video Guide USB

MGTP Gas Detectpr Specification	
Physical characteristics	
Size	Size:77mm(W)x146mm(H)x43mm(D)
Weight	490g
Sampling	Built-in pump (Up to 23M)
Flow rate	250~300cc
Carrying attachments	Stainless steel alligator clip
Case material	Shock resistant TPU covered Poly Carbonate (PC) absorption
Environmental protection	IP 67 (third party certified)
Display	Digital LCD display, LCD Backlight, LED Indicator
Display info	Live Reading, remaining battery life
Monitoring	
Sensor ranges/Resolution	CO: 0-500/1000 ppm, H2S: 0-100/200 ppm, O2: 0-30.0% IR LEL: 0 ~ 100%, IR CO2: 0-5%
Power	
Power source	Rechargeable Li-ion, Nominal Voltage: 3.7V, Nominal Capacity: 4000mAh
Battery life indication	Yes
Battery	TANK1: 72 hours TANK2: N Type: 52 Hours (Charging time: 4-6hrs)
Alarms	
Visual alarm	LCD Alarm Display, LCD Backlight
Audible alarm	Indicator LED Audinle/ Buzzer (90dB at 10cm)
Vibrating alarm	Yes
Alarm set points	Fully customizable
Data storage	
Data logging	Logs last 30 events
Data retention	Yes – IR Link to PC
Data transmission	Infrared
Certifications/Approvals	
Explosive atmospheres	IECEx Ex ia IIC T4 Ga / Ex ia IIB T4 Ga ATEX II 1 G Ex ia IIC T4 Ga / II 1 G Ex ia IIB T4 Ga INMETRO Ex ia IIC T4 Ga / Ex ia IIB T4 Ga UL Ex ia IIC T4 Ga Class I, Division 1, Groups A, B, C, and/or D, T4 Class I, Zone 0, AEx ia IIC T4 Ga Ex ia IIB T4 Ga Class I, Division 1, Groups C, and/or D, T4 Class I, Zone 0, AEx ia IIB T4 Ga
Approved temperature ranges	-20°C ~ +50°C
Environment	10%~90%RH(non-condensing)

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MGTP Bump & Calibration Station Specification	
Physical characteristics	
Size	270(W)x180(H)x231(D)mm(10.63x7.09x9.09inch)
Weight	2.85kg(6.28lb)*Without Gas Cylinder
Operating Temperature	)+5°Cto+40°C(+41°Fto+104°F)
Battery Type	Rechargeable Lithium Ion
Battery Life	1,000 Bump Test
LED	6 Blue LED sfore for each unit, 3-color LED for power, Switch Back Light LED (Yellow, Green)
Memory	SD-Card Class 10 (16GB Standard)
Information stored	Bump/Cal Logs, Individual detector Event Logs, Firmware and Unit Configurations
Charging Adapter	0-12V,3A
Certification	RCM(ACMA&RSM)

