

Monitoring units

MPU – Multi point unit with 2, 4 or 6 channels

General

The MPU2C, MPU4C and MPU6C are central units with two, four or six channels (detectors).

They offer an ideal solution for multi-point surveillance of small/medium-sized rooms where various toxic, hazardous and explosive gases may be present.

The microprocessor-controlled unit displays operating status and alarm information independently for each channel via (LEDs). They are suitable for monitoring HCFC and HFC refrigerants, carbon dioxide (CO₂), ammonia, organic compounds (hydrocarbons) as gasoline (hexane), ethanol, hydrogen, natural gas (methane), propane (LPG) and butane etc.

Function (per channel)

The connected detector continuously measures the gas concentration and provides an analogue signal to the central unit.

Alarms are indicated in three levels by a yellow and two red LEDs that indicate low (Alarm C), medium (Alarm B) and high (Alarm A) gas concentration, the respective LED lights up and the corresponding relay switches.

If the alarm delay selected flashes each LED in the selected delay time, then the LED turns to steady and the relay contact switches.

Features

- Microprocessor controlled unit for two, four and six detectors
- LED operation indicator per individual channel
- Three adjustable alarm thresholds for each individual channel
- Alarm delay, selectable in four steps
- Relay outputs for A, B, C and fault alarm, 230V / 5A
- Manual or automatic alarm reset
- Test terminal for service tools
- Service mode for temporary blocking of alarm
- Built-in self-test feature
- Built-in buzzer
- Fail-safe function with built-in monitoring and power failure alarm
- 24V DC / 150mA output for siren or flashing light

Connectable Detectors


Detectors are available for different gases and different ranges.

- MP-Series is specifically designed for MPU
- ATEX detectors for explosive environment
- Transmitters with 0..10V or 4..20mA output

⚠ It's only allowed to connect detectors with a total power consumption of 10W at the MPU. Overload can damage the unit.

Options

- Input for external battery back-up (UPS)
- Can be ordered with custom preset alarm levels for the specific gas type

Order code	Model	Details
	MPU	Ambient temperature: 0°C..+50°C Humidity: 10..95% Rh (non condensing) IP66
20-310	MPU2C	2 channels, 230V AC / 24V DC, max 10 W
20-300	MPU4C	4 channels, 230V AC / 24V DC, max 10 W
20-305	MPU6C	6 channels, 230V AC / 24V DC, max 10 W
60-300		Custom preset alarm levels. Price per channel/detector

Factory-set alarm levels (by experience appropriate alarm levels and ranges):

Detector type	Range	Alarm levels
NH ₃ - 4000	0 – 4000 ppm	150 / 500 / 3000 ppm
NH ₃ – 10000 *) Option	0 – 10000 ppm	500 / 3000 / 8000 ppm
HFC ²⁾	0 – 4000 ppm	100 / 1000 / 2000 ppm
CO ₂ ¹⁾	0 – 10000 ppm	2000 / 5000 / 8000 ppm
Flammable / explosive gas	0 – 40% LEL	5 / 10 / 20% LEL

¹⁾ New standard settings starting from May 2013. **Note! The MPU6C is limited to use with max four (4) MPS-CO₂**

²⁾ Normal factory setting is for R134a, but the detectors also indicate for HCFC and CFC with slightly different alarm levels.



(HFC) – Detectors for synthetic refrigerants

MP-series – Detectors for connection to MPU, semi conductive sensor (SC)

General

Detectors intended for installation in engine rooms, cold rooms or other spaces where gas is used, handled or stored. The 'MP-Series' is specifically designed for MPU and SPU/SPLS monitoring units.


Measuring ranges and alarm levels





 Alarm levels are always set on the monitoring unit!
 Appropriate ranges and alarm levels depends on the environment in which the detectors is installed and the type of gas to be detected.


- Complies with the F-gas regulative 517/2014 and EN 378:2016

Features

- Requires connection to a monitoring unit e.g.MPU2C, MPU4C, MPU6C, SPU/SPLS
- Power supply from monitoring unit
- Robust noncorrosive PC enclosure for installation also in aggressive environments

 Sensors are a consumable part.
 Expected sensor lifetime ≈ 5 year
 Easily replaceable sensor, see spare parts
 Method for test and calibration: DT300
 Maintenance: at least once a year (at normal operation)

Order code	Model	Details
	MP-D	Room mounting Ambient temperature: -40°C..+50°C Humidity: 0..95% Rh (non condensing) IP21
38-220	MP-D-HFC-4000	0-4000 ppm
	MP-DS	Splash proof, room mounting Ambient temperature: -40°C..+50°C Humidity: 0..95% Rh (non-condensing) IP54
38-420	MP-DS-HFC-4000	0-4000 ppm
	MP-DK	Detector with external sensor for installation in ventilation ducts. A plastic tube with the sensor mounted with a rubber sleeve directly in the channel. 1.5 m cable between the sensor and the detector. Ambient temperature: -40°C..+50°C Humidity: 0..95% Rh (non-condensing) IP54
38-820	MP-DK-HFC-4000	0-4000 ppm
	MP-DR	Detector specially designed for vent lines from pressure relief valves in refrigeration plants. Fitting in brass ½ "Flare. Ambient temperature: -40°C..+50°C Humidity: 0..95% Rh (non-condensing) IP54
38-620	MP-DR-HFC-4000	0-4000 ppm

 Alarm levels are always set on the monitoring unit, which is normally done during commissioning of the system.

On special order, the monitoring unit can be preset with custom alarm levels. The monitoring unit and detectors are labelled correspondingly for easier installation. The detectors must therefore be connected to the specified input channel.

Service tools

DT300 – Diagnostic tool

General

DT300 is a unique instrument that is used for checking and calibration of detectors with semi conductive sensors. A recurring concern when calibrating sensors is to know if the air is clean or contaminated. Traditionally, this has been accomplished by applying synthetic air or "zero gas" from a bottle. DT300 features a unique design with an integrated reference sensor that makes it possible to calibrate the relevant sensor without applying gas.

Function

The unit is equipped with a reference sensor (ordered separately) for the relevant gas.

The reference sensor is plugged into the unit and the LCD display indicates when the sensor is heated and ready to use.

The reference value for the gas appears in the LCD display.

The value is then used to calibrate offset-value on the relevant detector.


Alphanumeric LCD display shows:

- The integrated reference sensors offset-value
- Offset-value on the tested detector
- System voltage (+5 V)
- C-, B-and A-alarm levels

Features

- For control and calibration of semiconductor detectors
- For the control and adjustment of alarm levels of monitoring units
- Integrated reference sensor for measuring the temperature of gas or other contamination in the detector being tested
- Exchangeable factory "plug-in" sensors are available for H₂, HC, HFC / CFC / HCFC / HFO, NH₃ and VOCs
- Allows calibration of the current sensor without introducing calibration gas
- Power supply: 4 x AA alkaline (8h) or rechargeable Ni-Mh (10h) batteries
- LED indicator for battery level
- Dimensions WxHxD: 100x165x44mm
- Weight: 365g (including batteries)

⚠ SM300 sensor modules are a consumable part. Easily replaceable sensor module, see spare parts
Method for test and calibration: NA
Maintenance: SM300-sensor module shall be replaced annually.

Order code	Model	Details
	DT	Ambient temperature: -25°C..+50°C
60-130	DT300	Diagnostic tool, base unit *)
60-131	SM300-VOC	Sensor for exhaust gas, air quality (VOC)
60-132	SM300-HC	Sensor for hydro carbons (HC)
60-133	SM300-H ₂	Sensor for hydrogen (H ₂)
60-134	SM300-HFC	Sensor for refrigerant gases (HFC/CFC/HCFC/HFO)
60-135	SM300-NH ₃ -1000	Sensor for ammonia (NH ₃) – 1000
60-136	SM300-NH ₃ -4000	Sensor for ammonia (NH ₃) – 4000
60-137	SM300-NH ₃ -10000	Sensor for ammonia (NH ₃) – 10000

*) sensor module must be ordered separately (SM).