AquiTron
MSR Range

AT-DGC
Digital Gas Controller
For Refrigerant Gas Sensing

DATA SHEET

aquilar
leak detection solutions

AT-DGC

Digital Gas Controller For Refrigerant Gas Sensing

The AT-DGC is a master control panel for the AT-MSR range of gas detection devices. Mainly used with AT-SC sensors the AT-DGC monitors and warns for toxic, combustible and refrigerant gases. With adjustable parameters and setpoints making it flexible enough to suit many applications.

APPLICATIONS

The AT-DGC is suitable for applications where central monitoring with maximum design flexibility is required. Able to monitor both remote panels and up to 128* AT-SC sensors. All monitored sensors have individually adjustable alarm thresholds meaning multiple gas types can be detected in one central location. Modbus, BACnet* and up to 32* independently configurable relay outputs mean there is connectivity to suit most applications.

(*with expansion modules)

FEATURES & BENEFITS

- Can monitor upto 96 digital sensors (upto 128 with expansion module)
- Suitable for more than 50 different toxic, combustible and refrigerant gas types
- Simple and comfortable commissioning by configuration with standard parameters
- Logical system menu
- Flexible configuration thanks to programmable parameters and set-points
- Four free adjustable alarm thresholds per sensor
- Several alarm relays configurable per alarm
- Alarm release by falling or increasing gas concentrations selectable for each alarm
- Max. 32 relays with change-over contact, potential-free, max. 250 V AC/DC, 5 A (via AT-DGC module and 1 to 7 AT-DGC-EP)
- Up to seven AT-DGC-EP modules with integrated repeater function connectable
- SIL 2 Level
- durable housing
- Integrated warning buzzer (optional)

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TECHNICAL INFORMATION

Power	90/230 V AC 50/60 Hz; 24 V DC - 20 % + 20 %
Operating Temperature	-5 °C TO +40 °C
Operating Humidity	15–95 % RH non-condensing
Size (W×H×D) Approx mm	Plastic housing with view cover 314 x 263 x 143mm (W x H x D)
Cable Entry	M 16; M 20; M 25
Weight	Min. 2.7 kg Max. 13 kg depending on type
Housing	RAL 7035 (Light Grey) Polycarbonate IP65
Configurable Relays	1 × Low Alarm, 1 × High Alarm, 1 × Fault (240 Vac @ 10A)
Analog Output (Max 16)	Proportional, overload and short-circuit- protected, 4-20 mA = measuring range 3.0 < 4 mA = underrange >20–21.2 mA = overrange 2.0 mA = fault
Relay (max. 32) **Relay (max. 96) (via SB2)** **Fault Relay (1)**	250 V AC/DC, 5 A, potential-free, change-over (SPDT) 250 V AC/DC, 5 A, potential-free, change-over 250 V AC, 5 A, potential-free, normally open contact (SPST)
Relay Output	x2 Alarm Relay 250 Vac 5A, 30Vdc 2A (SPDT) x1 Fault Relay 250 Vac 5A, 30Vdc 5A (SPDT)
Local Bus Output	3 Pin Plug-in Connector 5Vdc 250 mA Max, overload, short circuit and reverse polarity protection
Flammability Compatiblity	UL 94
Wire Connection Input **Wire Connection Output**	Spring type: min. 0.5 mm2, max. 1.5 mm2 (22 to 16 AWG) 2 x spring type terminal: min. 0.5 mm2, max. 1.5 mm2 (22 to 16 AWG)
Power Supply, relay, fieldbus	Screw type terminal: 2.5 mm2 (14 AWG) RS485/19200 BAUD
LC-Display	Two lines, 16 characters each, illuminated
LC Display Operation	Menu driven via 6 pusbuttons
Display Temperature Range	-20°C - +60°C
Acoustic Pressure/ Frequency	85 dB 3.5 kHz
Storage Temp Range	0 °C to +40 °C
TLS Protocol (TCP/IP)	Transmission of current and average values, alarm and relay status, and analog output states in TLS protocol
Interface Modbus RS 485	Transmission of current and average values, alarm and relay status, and analog output states in Modbus RTU RS 485 protocol to external devices
Data Logger	Storage of measured values, of alarm status and faults with time and date stamp on an USB flash drive

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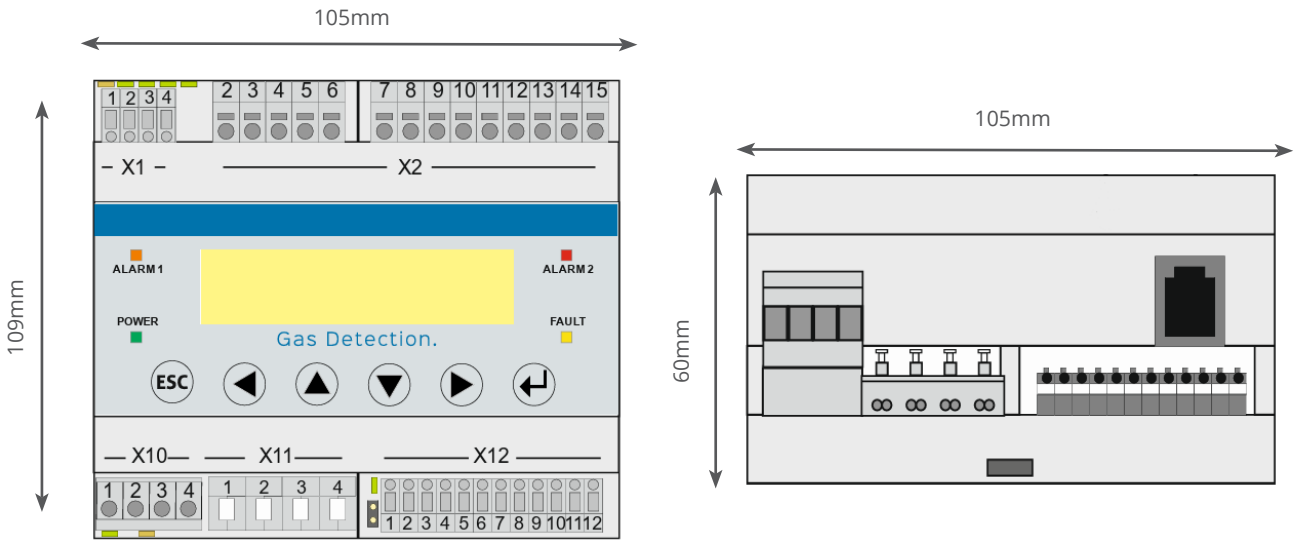
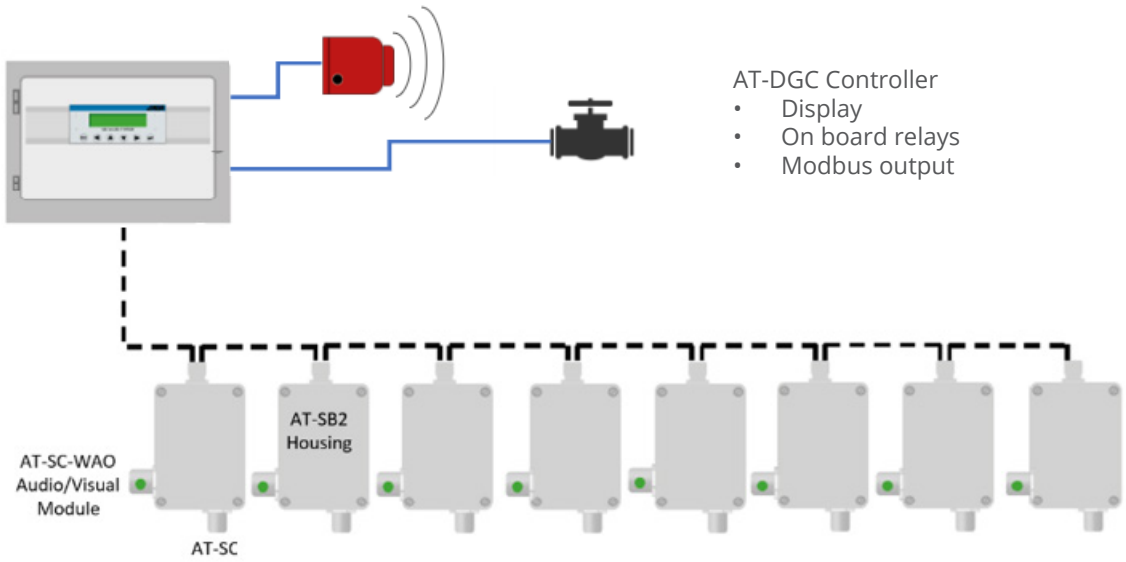
DIMENSIONS



CONFIGURATION EXAMPLE



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APPROVALS

EMC Directives 2014/30/EU	Regulation of electromagnetic compatibility of equiment
Low Voltage Directive 2014/35/EU	Equipment within certain voltage limits provides a high level of protection for European citizens
IEC/EN 61010-1:2010	General saftey requirements for the following types of electrical equipment and accessories
EN 50271	Functional saftey and software realiability in gas detection systems
EN 50290 Type I	Standardisation of symmetrical, coaxial and optical cables used for infrastructure networks
IEC/EN 61508-1-3	Functional saftey of electical, electronic and programmable electronic (E/E/PE) safety systems
EN 50402	Systems for detection and measurement of combustible or toxic gases, vapours or of oxygen
IEC/EN 62990-1:Type SM	Performance requirements of detectors for toxic gases
EN 14624	Performance of portable locationg leak detectors and of fixed fas detectors for all refrigerants
BS EN 378	Requirements in the design, manufacture, construction, installation, operation, maintenance, repair and disposal of refrigerating systems and appliances regarding local and global environments
EN 50545-1	Electrical apparatus for the detection and measurement of toxic and combustible gases in car parks and tunnels
ANSI/UL 2017 / UL 61010-1	Defines safety requirements for electrical equipment
CAN/CSA-C22.2 No. 61010-1	The purpose of the requirements of this standard is to ensure that hazards to the operator and the surrounding area are reduced to a tolerable level.

ORDERING INFORMATION

8035	AT-DGC-C - Digital Gas Controller, 230Vac, inc. Housing & PSU
8036	AT-DGC - Digital Gas Controller, 24Vdc (Controller Only)
8037	AT-DGC-EP - DGC Extension Module, 24Vdc
8072	AT-SC-WAO - Audio Visual Module For AT-MSR System
8073	AT-DGC-PSU - 24vdc PSU
8074	AT-MSR-PT (Portable Service Tool)

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