



DCC shown with Option L

The DCC Dual Channel Controller is a comprehensive and dependable, self-contained system that offers one or two channel configurations for monitoring toxic, combustible and solid state refrigerant gases with straight-forward control functionality for non-hazardous, non-explosion rated, commercial and light industrial applications.

Sensor configurations include, two internal electrochemical sensors (one must be CO), or one internal electrochemical and one remote catalytic or remote solid state sensor or a remote 4-20 mA transmitter. Field configurable settings are done through an easy to navigate, comprehensive menu structure.

Other features include two 4 - 20 mA outputs that can be used for VFD control, one configurable 4 - 20 mA input, two alarm level line voltage, two SPDT dry contact relays with field configurable time delays and trigger levels, a field selectable integral audible alarm and an LCD digital display with LED indicators for channel alarm status and fault conditions.

Automated calibration and other maintenance procedures are simple and easily performed in the field. For parking garage applications, our proprietary Calibration Extending Firmware (CEF) takes into account the aging of the toxic gas sensors so that less frequent calibrations are required.

KEY FEATURES

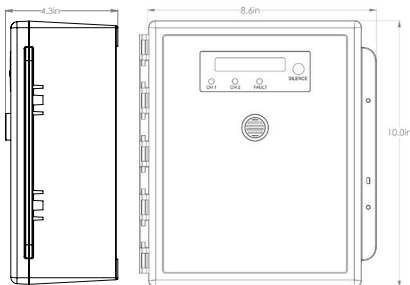
- » Single or dual channel operation
- » Flexible internal and/or remote sensor configurations
- » 2x16 character LCD display with LED indicators
- » Two 5A SPDT dry contact relays
- » Two 4 - 20 mA outputs, can be used for VFD control
- » One configurable 4 - 20 mA input
- » Optional loud or water tight, door mounted buzzer
- » Thermal resetting fuses
- » Standard water / dust tight, corrosion resistant enclosure (drip proof); IP54 rated with optional splash guard installed

APPLICATIONS

- » Parking Garages requiring VFD control
- » Indoor Commercial Swimming Pools
- » Firehalls
- » Ice Arenas
- » Wineries
- » ... and many more



TECHNICAL DRAWING



TECHNICAL SPECIFICATIONS

GAS TYPE

Electrochemical (internal)	Carbon Monoxide (CO), Nitrogen Dioxide (NO ₂), Nitric Oxide (NO), Oxygen (O ₂), Hydrogen Sulphide (H ₂ S), Ethylene (C ₂ H ₄), Sulphur Dioxide, (SO ₂)
Refrigerants (remote)	R22, R134A, R402A, R404A, R407C, R410A, R422D, R507A
Combustible (catalytic)(remote)	Hydrogen (H ₂), Methane (CH ₄), Propane (C ₃ H ₈)
TVOcs (solid state) (remote)	

MECHANICAL

Enclosure	ABS / Polycarbonate, IP54 rated with splash guard installed. Copper coated interior to reduce RF interference.
Weight	600 g (1.4 lb)
Size	254 x 218 x 109 mm (10.0 x 8.6 x 4.3 inches)

USER INTERFACE

Display	2x16 character LCD digital display with LED Panel indicating "CH1" state, "CH2" state, and "FAULT"
"SILENCE" Push Button	Temporarily clears buzzer / latched relays

INPUT / OUTPUT

Input	One 4-20 mA analog
Output	Two 4-20 mA analog
Relays	Two SPDT dry contact relays, rated 5 amps @ 240 VAC
Audible Alarm	- Standard internal buzzer - Optional loud, door mounted buzzer, rated 90 dB @ 30 cm (1 ft) - Optional water tight, door mounted buzzer, rated 85 dB @ 60.96 cm (2 ft)

ELECTRICAL

Power Requirement	
Low Voltage	16 - 30 VDC or 12 - 28 VAC, 10 W, Class 2
Line Voltage	90 - 240 VAC, 50 - 60 Hz

DCC Dual Channel System

TECHNICAL SPECIFICATIONS CONT

Current Draw		Low Voltage Line Voltage (110 VAC) Line Voltage (220 VAC)	400 mA @ 24 VDC (400 mA RMS @ 24 VAC) Approximately 90 mA Approximately 45 mA
Wiring		Low Voltage: Line Voltage:	24 VDC or 24 VAC two-conductor shielded; VAC three-conductor shielded
Distance			Maximum 200 ft between DCC controller and ESH-A Remote Sensor using minimum 18 gauge wire stranded within conduit. Reference the manual for maximum distances to maintain for remote 4-20 mA transmitters.
Fuses			Thermal, resetting
ENVIRONMENTAL (sensor dependant)			
Operating Temperature			-20°C to 40°C (-20°F to 104°F) lower temperature option available
Humidity			15 - 90% RH non-condensing
CERTIFICATION			
Conforms to: CSA-C22.2 No. 205-12 UL508 (Edition 17):2007			
Conforms to: EMC Directive 2004/108/EC EN 50270:2006, Type 1, EN61010			
Conforms to: FCC. This device complies with Part 15 of the FCC Rules.			



PRODUCT CODES

Find the *Type* and follow the instructions to add the sensor from the appropriate [GROUP] to build the DCC package you require:

Type A: Single Channel (Internal Electrochemical Sensor) Choose 1 internal sensor from [GROUP 1]. Part number is **DCC-A** + part number listed in [GROUP 1].

Type B1: Single Channel (Remote 4 - 20 mA Transmitter) No internal sensor. Choose 1 remote transmitter from [GROUP 2]. Part number is **DCC-B-RT** + transmitter part number.

Type B2: Single Channel (ESH-A Remote Sensor - Solid State) No internal sensor. Choose 1 remote ESH-A sensor from [GROUP 3]. Part number is **DCC-B-R** + part number listed in [GROUP 3].

Type B3: Single Channel (ESH-A Remote Sensor - Catalytic) No internal sensor. Choose 1 remote ESH-A sensor from [GROUP 4]. Part number is **DCC-B-R** + part number listed in [GROUP 4].

Type D1: Dual Channel (Internal Electrochemical Sensor + Remote 4-20 mA Transmitter) Choose 1 internal sensor from [GROUP 1] and 1 remote transmitter from [GROUP 2]. Part number is **DCC-D-RT** + part number listed in [GROUP 1] + transmitter part number.

Type D2: Dual Channel (Internal Electrochemical Sensor + ESH-A Remote Sensor - Solid State) Choose 1 internal sensor from [GROUP 1] and 1 ESH-A remote sensor from [GROUP 3]. Part number is **DCC-D-R** + part number listed in [GROUP 1] + [GROUP 3].

Type D3: Dual Channel (Internal Electrochemical Sensor + ESH-A Remote Sensor - Catalytic) Choose 1 internal sensor from [GROUP 1] and 1 ESH-A remote sensor from [GROUP 4]. Part number is **DCC-D-R** + part number listed in [GROUP 1] + [GROUP 4].

Type E: Dual Channel (Internal Electrochemical Sensors) Comes with 1 internal CO sensor. Choose second internal sensor from [GROUP 1]. Part number is **DCC-E-TCO** + part number listed in [GROUP 1].

PRODUCT CODES CONT

PART NUMBER

[GROUP 1]	Internal Electrochemical Sensor Choices	Lifespan
TCO	Carbon Monoxide (CO) sensor (0 - 200 ppm)	6 yrs
CZH4	Ethylene (C ₂ H ₄) sensor (0 - 200 ppm)	2 yrs
H2S	Hydrogen Sulphide (H ₂ S) sensor (0 - 50 ppm)	2+ yrs
NO	Nitric Oxide (NO) sensor (0 - 100 ppm)	2 yrs
NO2B	Nitrogen Dioxide (NO ₂) sensor (0 - 10 ppm)	6 yrs
O2	Oxygen (O ₂) sensor (0 - 25% volume)	3 yrs
SO2	Sulphur Dioxide (SO ₂) sensor (0 - 20 ppm)	2+ yrs

[GROUP 2] Remote 4 - 20 mA Transmitters

AST-I Industrial Infrared CO2 Transmitter
AST-IS Industrial or Standard CO2 Transmitter
ART Infrared Refrigerant Transmitter
CXT Explosion Proof Transmitter
LPT Lower Power Transmitter
LPT-A Analog Transmitter

[GROUP 3] ESH-A Remote Solid State Sensors

[GROUP 3]	ESH-A Remote Solid State Sensors	Lifespan
ESH-A-SR22	Refrigerants (R22) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR134A	Refrigerants (R134A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR402A	Refrigerants (R402A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR404A	Refrigerants (R404A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR407C	Refrigerants (R407C) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR410A	Refrigerants (R410A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR422D	Refrigerants (R422D) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR438A	Refrigerants (R438A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR507	Refrigerants (R507) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-STVOC	TVOCs sensor (0 - 500 ppm)	5 yrs

[GROUP 4] ESH-A Remote Catalytic Sensors

ESH-A-CH2	Hydrogen (H ₂) sensor (0 - 50% LEL)	5 yrs
ESH-A-CCH4	Methane (CH ₄) sensor (0 - 50% LEL)	5 yrs
ESH-A-CC3H8	Propane (C ₃ H ₈) sensor (0 - 50% LEL)	5 yrs

OPTIONS (Factory installed) Add at the end of the "Part Number" above.

A	Door mounted, loud buzzer, rated 90 dB @ 30 cm (1 ft)
WA	Door mounted, water tight buzzer, rated 85 dB @ 60.96 cm
H	Internal heater for cold environment applications down to -40°C / 40°F (option for remote LPT-A transmitter only)
IH	Internal heater for cold environment applications down to -40°C / 40°F (option for DCC enclosure only)
L	Top mounted strobe 24V, 7 cm dia x 12.7 cm H (2.75" x 5")
S	Splash guard (not available with O ₂ or CO ₂ sensors). May be added to the DCC, remote transmitter and/or the ESH-A Remote Sensor, as required.

ACCESSORIES

CET-715A-CK1	Calibration Kit for 17, 34, 58, 74, 103 L cylinders, 0.5 LPM flow regulator & adapter to fit 17 L cylinder
SCS-8000-SFG	Metal protective guard, large, 16 gauge, galvanized metal guards for controllers.