

DATA SHEET



The Dafo VFP Intelligent CO-detector is a unique detector intended for early detection of the initial gas emissions from Lithium Ion batteries that is a sign of potential thermal runaway.

Advanced software signal processing of CO, temperature and humidity with the ability to set different pre-alarm and alarm conditions, as well as full CAN-bus communication with our CEV range of control units, makes this one of the most versatile detectors on the market.

Designed to meet both the environmental challenges as well as the regulatory requirements of the vehicle industry makes this the most advanced detector on the market.

Design

The Dafo VFP Intelligent CO-detector is housed in a glass fibre reinforced Polyamide casing. It is designed to be fitted within the battery pack.

Connection is made through a multi pole M12 connector that handles both power supply and signal handling.

For OEM-applications the detector can be supplied as an open PCB for further system integration.

Function

The Dafo VFP Intelligent CO-detector is a unique detector intended for early detection of the gas emissions that precedes thermal runaway in Lithium Ion batteries. It uses an advanced signal processing to be able to use detected gas emissions as well as temperature and humidity in order to maintain accurate detection in varied environmental conditions.

All data is communicated through the CAN-bus interface. Multiple alarm levels can be set and treated as warning or critical alarms. Temperature and humidity are constantly monitored and can also be used as part of the alarm condition.

The Dafo VFP Intelligent CO-detector is designed to work with the CEV range of control units. It can also work as a stand-alone detector when integrated to an existing CAN-bus. There is also a non-network version available with direct digital outputs.

For even more versatile detection capabilities our standard linear detector can be connected to the detector and communicate the alarm state through the CAN bus. In this case the CO-detector can act as a pre-alarm to switch off the battery pack at an early stage and where the linear detector initiates fire suppression actions.

Options

Optional detection wire connectivity

Optional non-networked digital output version

Optional fan

Optional bare PCB version (without any casing)

Optional backup power for up to 60s power cuts

Optional manual calibration for High-Accuracy

Technical specification

Supply Voltage	9-36 VDC
Power consumption	10mA @ 24 VDC
Temperature range	-30 to 55°C
Ambient humidity	15-95% continuously
Measurement range CO	0-1.000 ppm
Resolution	1 ppm
Accuracy	<5% full scale
Response time	15 seconds typical
Sensor start-up time	<10 minutes
Alarm level(s)	Software configurable
Temperature compensated	Yes
Humidity compensated	Yes
Service life	Up to 10 years
Fault supervision	Com failure Sensor element fault Analogue electronics fault Over- under- voltage
Communication	CAN bus SAE J1939
Casing material	PA6 +30% GF
EM compatibility	UN ECE R10
Dimensions	Δ 120-120-120 x 35