

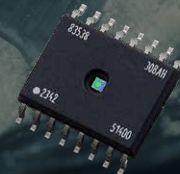
# Melexis

INNOVATION WITH HEART

MLX90830

ABSOLUTE PRESSURE SENSOR

ANALOG PRESSURE WITH A  
TRIPHIBIAN™ SOLUTION



Like a swordfish, our Triphibian™ pressure sensors help the boundaries of the sea, air, and ice. Swift and versatile, they navigate through liquid depths, soar through the atmosphere, and thrive in frigid waters. Inspired by Morimer's groundbreaking device in "The Secret of the Swordfish," these marvels of engineering adapt to the unique conditions of three distinct realms.

## GAS AND LIQUID MEDIA FROM 2 TO 70 BAR FACTORY CALIBRATED

### MLX90830

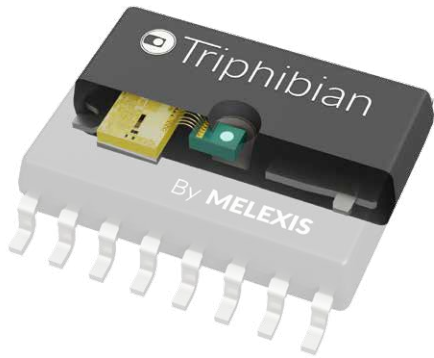
The MLX90830 is a miniaturized MEMS pressure sensor handling measurement of gas and liquid media from 2 to 70 bar in a robust way. The factory calibrated device measures the absolute pressure and delivers a proportional analog output signal. Two calibrated ranges (10 or 35 bar) are available.



### KEY FEATURES

- ✓ Triphibian™ technology
- ✓ Robust in gas and liquid media, compliant with chemical refrigerants
- ✓ +/-0.5% full scale lifetime accuracy
- ✓ Ratiometric analog output
- ✓ Fast response time (min 0.4ms)
- ✓ System in a package: MEMS, analog front-end circuitry, 16-bit microcontroller, voltage regulators and analog ratiometric back-end
- ✓ Configurable diagnostic features like internal broken connection, over voltage, under voltage etc.
- ✓ Factory calibrated and fully programmable through the connector with the PTC04 programming tool for customized calibration curves
- ✓ Extended over (+40V) and reverse (-40V) voltage capabilities (supply & output)
- ✓ Automotive temperature range (-40°C to 150°C)
- ✓ Certifications
  - AEC-Q100 (automotive) and AEC-Q103-002 (pressure sensor MEMS)
  - ASIL compliant developed as an ASIL A SEooC (ISO 26262)
- ✓ Package RoHS compliant SOIC16 WB (XG)

# TRIPHIBIAN™ PRESSURE SENSOR



- A Triphibian™ sensing element consists of a suspended cantilever inside of the IC package with the membrane at its tip
- It handles pressure measurement from 2 to 70 bar in liquid, gas and survive in solid state

## MLX90830 TRIPHIBIAN™ PRESSURE SENSOR APPLICATIONS

Absolute pressure measurement from 2 to 70 bar with gas or liquid media

- ✓ Thermal Management of Electric Vehicles
  - Standalone sensors
  - Embedded sensors in expansion valves
  - Embedded sensors in e-compressors
  - Embedded sensors in pumps
- ✓ HVAC-R systems

