

Battery Thermal Management System

Battery Electric Vehicles

GRI Product Application Sheet



Market: Battery Electric Vehicles (BEV)

Application: Battery Thermal Management System (BTMS)

For Battery Electric Vehicles (BEV), the efficiency and safety factors of the batteries depend greatly on maintaining the temperature of the batteries within a consistent range.

Systems that use forced air or coolant in their systems are called Active BTMS.

When coolant or fluid is used to manage temperatures, the fluid is either directly in contact with the battery cells (i.e. submersion) or indirectly via pipes such as a cooling loop.

Purpose of pumps: Moving fluid through cooling loops.

GRI Pump models: Integrity Series Magnetic Drive Circulation Pumps

Integrity Series Pumps Market Advantages

- **Brushless DC motors:** 12-24, 36, 48V
- **Motors manufactured in-house** - Designed to customize pumps for OEM specific flow and pressure requirements.
- **Smart** - Proprietary algorithm provides smart feedback i.e.: dry run, over/under voltage, over temperature alerts, etc.
- **Multiple Control Options**
 - 0-5v Analog
 - PWM Digital
 - CAN-Bus: J1939
 - Microprocessor Driven
- **Available Agency Approvals**
 - SAE J1455
 - UL778: Motor-operated water pumps.
- **Magnetically driven** - Sealless
 - No mechanical seals to wear out over time.
 - Motor is contained away from the fluid.
- **Maximum temperature:**
 - Up to 221°F (105°C) (Electronics are separate from pump).
 - Up to 149°F (65°C) (Electronics are housed within the pump).
- **Multiple OEM options available**



INTG3 Series



INTG7 Series



INTG8 Series

Pump Series	Maximum Flow GPM, (LPM)	Maximum Head FT, (PSI)	Maximum System Pressure	Motor Specs/ Voltages
INTG3	8.85, (33.5)	37.0, (16.0)	75 PSI	12-24 VDC
INTG7	22.0, (83.0)	80.0, (35.0)	75 PSI	12-24, 36, 48 VDC
INTG8	39.0, (145.0)	70.0, (30.0)	75 PSI	12-24, 36, 48 VDC



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