

Component Solutions for Smart Grids



Generation, Measurement and Management

ENERGY

Relays, Switches, Sensors and Connectors

OMRON[®]
ELECTRONIC COMPONENTS

Leading-edge Technologies for the Energy Market

As a global manufacturer with key competence in control and automation technology, Omron aims to provide innovative solutions that help build the Smart Grid where Generation, Management and the Measurement of Energy work seamlessly.

The key to successful implementation is to provide dependable component solutions that are every bit as good as the systems that will steadily integrate and become more controllable for the benefit of energy consumers and providers.



Energy Generation - Solar PV Systems

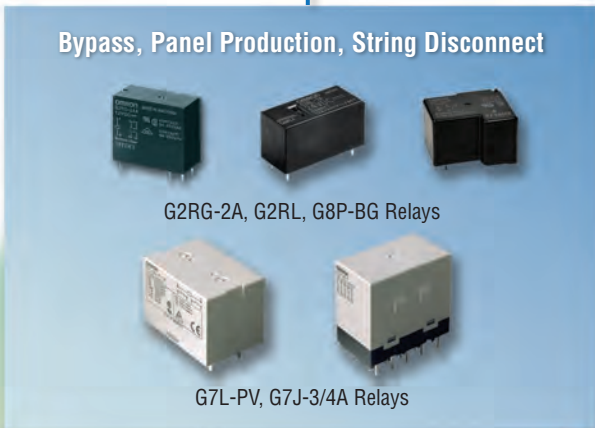
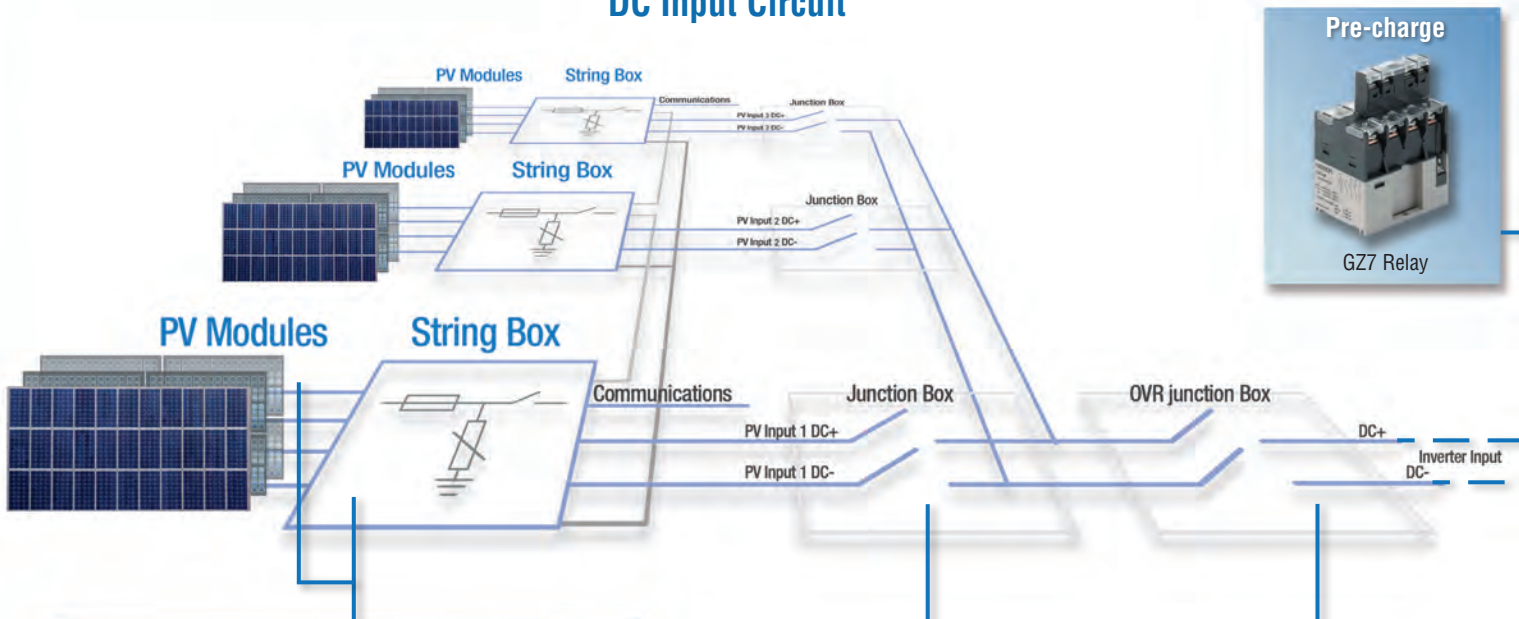
Solar PV Systems

The latest generation of Grid-tied Solar PV and Wind Inverters brings benefits for both Consumer and Commercial enterprises. Omron recognizes the contribution that de-centralized Solar Energy Generation can provide to a sustainable green economy and has been developing components to meet the associated high-tech demands.

Relay Solutions

Non-latching relays are utilised for both bypass and DC disconnect functions from individual panel to complete DC circuit coverage.

DC Input Circuit



Solar PV Inverters demand extremely high, durable performance. Omron brings together all its key material and design competencies to offer a range of relays, Connectors and Sensors specially enhanced and tested to meet the needs of the Solar Power industry.

Grid Protection

- Complying with VDE0126, and with large contact gaps to meet IEC62109.
- Tested to +85°C continuous elevated temperature and hot start performance.
- Enhanced coil and contact assemblies to achieve optimised power consumption and best in class electrical isolation performance.
- Single, dual and multi contact relay solutions help optimise PCB design space.

G2RG-2A – Ideal solution for Micro Inverters.

G8P-BG – The reliable standard solution for String Inverter applications.

G7L-2AP-PV – Best in class performance, 2 Form A ideal for Maxi string and small central inverter.

G7Z – World's smallest contactor, up to 4x 440VAC, 40A (resistive load) with optional auxiliary contact follow feature for large string and central inverter.

DC Insulation

G2RL & G2R – Offer high performance industry standard packages.

Battery Management

Relay solutions ideal for use in charge control disconnect, load dump, low voltage disconnect applications.

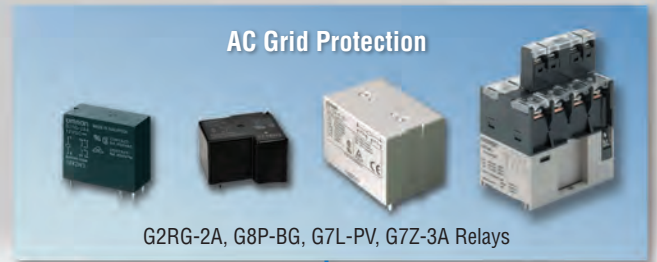
NEW G9E Series – Compact DC power, disconnect relays, utilising magnetic arc and sealed (outgassed) package technology for dependable performance.

Pre-charge

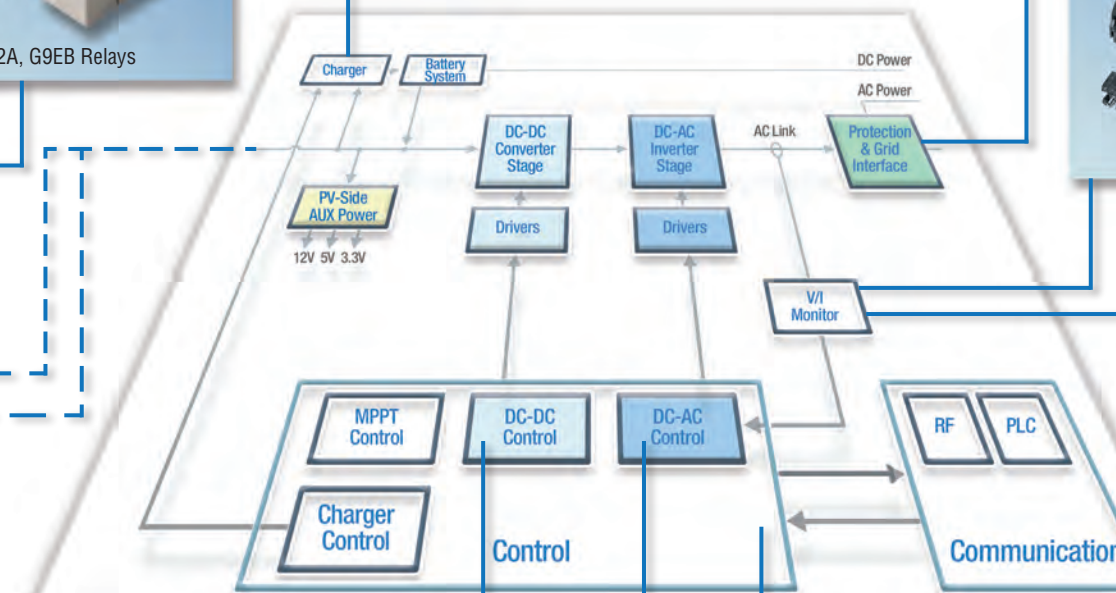
G7Z – Versatile multi-pole (2, 3 or 4-Form A) mini contactor with optional Auxiliary contact, feature for 'peace of mind' operation.

PCB Connectors

Wide range of space saving Board-to-Board connectors offering design freedom.



Grid-tied, String and Central Inverter



D6GL-50H Current Sensor

Nano-granular particle magnetic chip combined with Magneto-resistive and closed-loop technology achieves new benchmark in stable, low hysteresis leakage detection exceeding IEC62109-1, 2 and VDE0126 compliance.

Smart Meters

Electricity - Residential & Commercial LV 1 & 3 Phase

The latest generation of Smart Meters underpins the desire of energy providers to save energy as consumers take greater control of consumption.

G9T Power Relay

Cost-effective AC Latching power relay with class leading heat rise characteristics.

G5RL-U/K Power Relay

New power-saving relay contributes to lower background consumption.

G3VM MOSFET Relays

Latest models with high I/O isolation for silent operation.

D2F Detection Switches

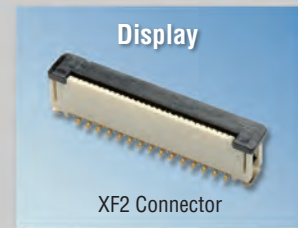
The enhanced design and utilisation of alternative materials ensures these detection switches meet the challenge of extended time-in-field use.

EE-SX/SY Photomicrosensors

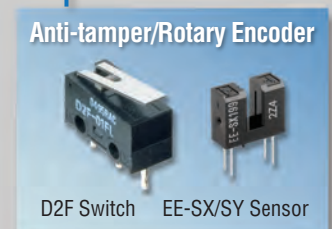
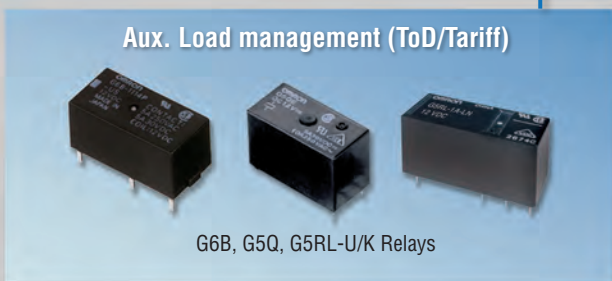
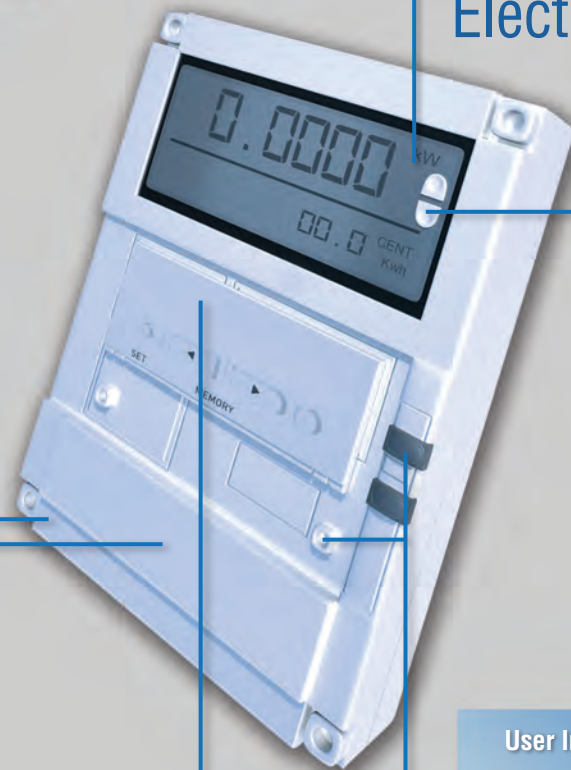
This range of Sensors is the cost-effective solution for new and retro-fit Pulse Output and Rotary Encoder functions.

FPC Connectors

A wide variety of FPC display connector solutions helps save board space.



Electricity

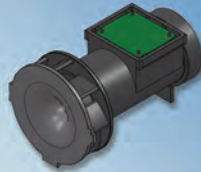


Service Socket



G6K, G3VM Relays

Gas Sensor



D6F-G

Gas

Natural Gas – Residential & Commercial G1.6 – G40

Smart Gas Meters demand the highest accuracy and safe, reliable performances. Omron components are rigorously tested to satisfy current Regulations.

D6F-G Gas Composition Compensation Sensor

D6F-G gas sensor achieves a new benchmark in accurate gas detection that exceeds existing technologies including mechanical bellows and ultrasonics. Utilizing a purpose-built housing together with advanced MEMS chip structure ensures optimal performance.

Stable, high accuracy and excellent repeatability utilizing bespoke flow path with Omron's proven integrated Dust Segregation System assures dependable performance even with pulsating gas.

Temperature-compensated and calibrated output. Onboard ASIC with configurable parameters using I²C digital serial interface.

Light Industrial Commercial Meter Systems

Solid-state Pressure Sensor Utilising Precision Membrane Technology

Compact housing accepts standard 6mm tubing and has a chemical-resistant plastic (PBT) body. It is metal shield mounted and pre-wired, with optional plastic body. PCB mount style is also available.

Display



XF2 Connector

Anti-tamper/Rotary Encoder



D2F Switch EE-SX/SY Sensor

User Interface



B3SL/FS Switches



D8M Pressure Sensor

DC Management

Battery Management for Electric & Hybrid Vehicles Slow and Fast Charge

B3AL Tactile Switch

Long stroke action tactile switch with the latest flexible rubber technology which ensure long life (>1M ops) and reliable feedback to the operator.

G9E Relay

High power DC relay with magnetic arc control technology for safe long-life operation.

G8P-BG & G7 Relays

A variety of purpose enhanced AC switching relays with large contact gaps to achieve dependable load connection performance.

D2HW Switches

The smallest sealed snap-action switch in the industry with a long stroke for reliable on/off operation.

Energy Storage for Utility, Community & Residential

The new generation of Battery Management back-up Systems combined with solar PV systems, wind generator and fuel cells provide new local distributed energy solutions for peak shifting and load levelling.

G9EA & G9EB Relays

These high performance DC power relays provide reliable load disconnect function between battery, generation source and load.

Earth Leakage Check



B3AL Switches

Coupler Detect



D2HW Switch

Fast Charge DC Disconnect



G9EB Relay

Slow Charge AC Disconnect

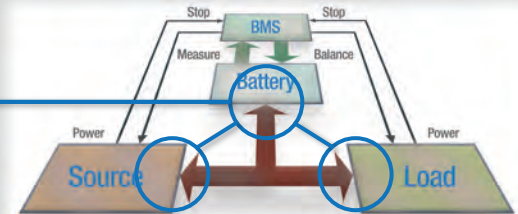


G8P-BG, G7L-2AP-PV, G7J-2 Relays

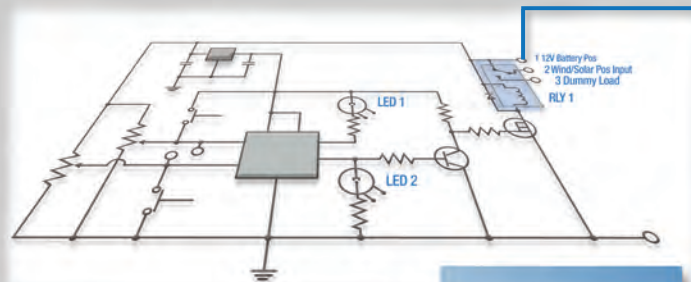
BMS



G9EN/EA-1 (25A)(60A) Relays



Charge Controller/Battery Powered Uninterruptable Power Supply



Load/Shunt Dump

Load/Shunt Dump



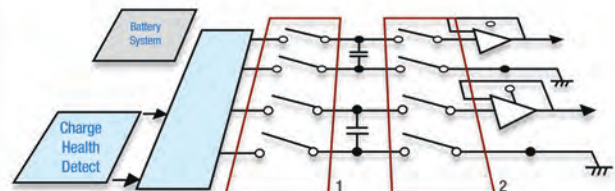
G2RL, G5Q Relay

Battery Charge Monitor



G3VM Relay

Battery Charge Monitor



Green Energy

Proton Exchange Membrane Fuel Cell (PEMFC)

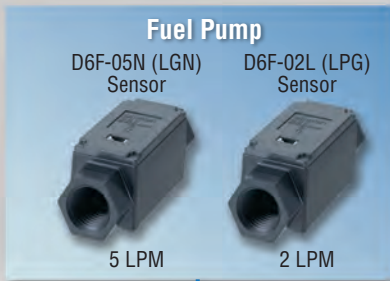
The Proton Exchange Membrane Fuel cells (PEMFC) are typically used for both stationary and portable applications. Their efficiency at relatively low operational temperature and pressure range enables a wide range of uses.

D6F Sensors

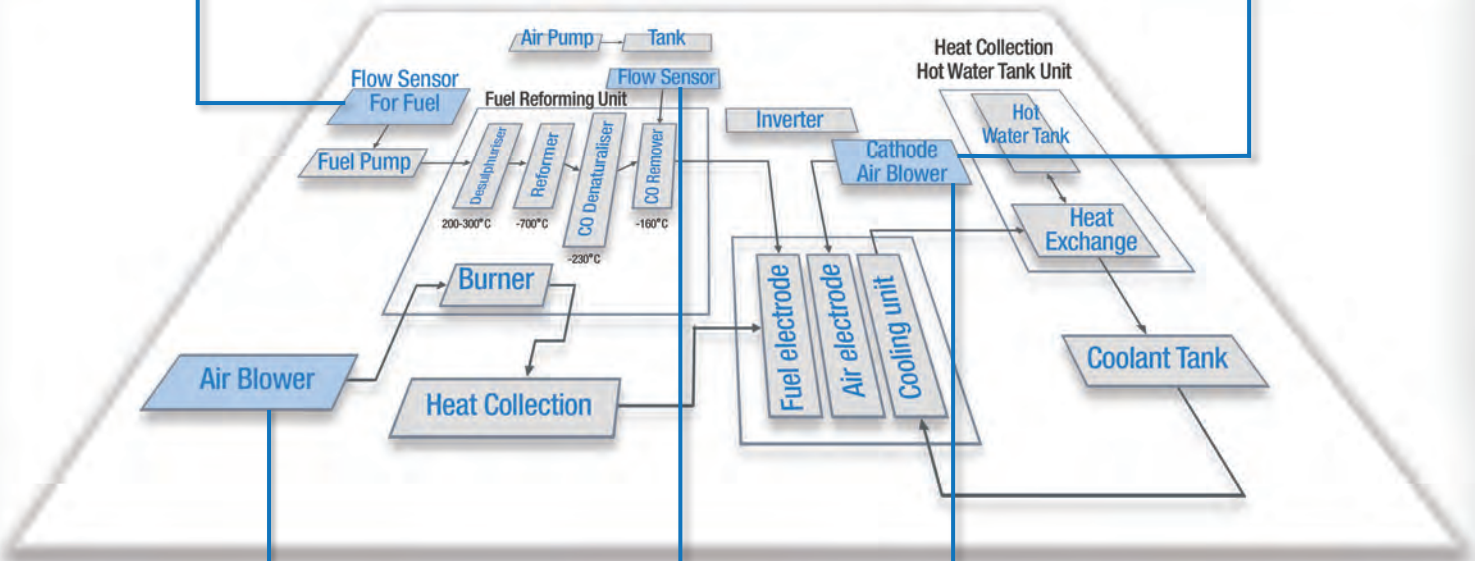
Omron's range of Flow Sensors meets the high sensitivity and demands of fuel and air pumps, and anode and cathode air blowers. Utilizing proven thermal detection technology, combined with optimized flow path design, these sensors offer highly repeatable and stable gas flow detection. Selected models include advanced orifice and mesh structures ensuring dependable flow detection even with turbulent and pulsating gas flows.

A8M Switch

Miniature snap-fitting Rocker Switch with high current switching conforming to latest EN standards.



Proton Exchange Membrane Fuel Cell

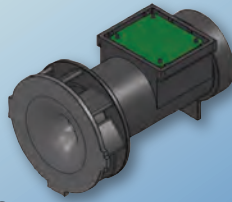


Featured Products



G9E DC Power Relay

Sealed switching, gas cooled arc, magnetic arc control, safe, reliable design.



**D6F-G Gas
Composition Compensation Sensor**

Utilizes purpose-built housing together with advanced MEMS chip structure to ensure optimal performance.



G9T AC Disconnect Relay

High amperage AC disconnect relay with magnetic arc control technology for safe long-life operation.

**Omron Electronic Components:
The Quality, Flexibility and Global
Support You Need.**

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