

WIDEBAND POWER LINE COMMUNICATION (PLC) TRANSFORMERS FROM IN THE HOME, TO ON THE ROAD



Power Line Transformers are traditionally associated with home networking and were used primarily for extending the reach of LAN connections from the central router or modem in the home office, without the need to add new wiring to the building. By removing the deployment of Cat5 cable to every room, and at sites where a wireless solution could be problematic, the use of the mains power ring to support data signals is quick, easy with proven reliability. This now makes PLC based communications links idea for off-grid, “green energy” back-up storage systems and automotive charging points for electric vehicles.

These new Pulse PLC series in SMD packages offer high isolation up to 4KV and various Insulation class from functional to reinforced across the hybrid TX/RX:LINE (1:1:1) turns ratio. These match with the leading broadband PLC chipsets, operating in the wideband frequency range of 3 – 30MHz, from market leading PLC IC and transceiver vendors.

The range includes BMU6201NL, which has a small 5x8mm footprint and features functional insulation at 500V for BMS systems on Low Voltage (>450v) packs and the more conventional size 10 x 14mm packages which feature higher grade insulation class (Supplementary to reinforced) at both industrial (-40C to 85°C) and automotive (-55°C to 125°C) temperature grades for extreme outdoor use.

The BM6150NL is specifically matched to the Maxim 2980/2986 chipset pairing, while the BX-6152/53NL and BX6158NL are more generic and can provide different option for Qualcomm’s GreenPHY – QCA700x, Intellon’s INT5500/INT1200 and STMicro’s ST2100 IC suites.

There are also design that are specific for Automotive use. The BM6154NL and BM6155NL support supplementary Isolation per IEC/UL62368 (working voltage 250Vrms) for the STMicro PLC transceiver STM2001 and can be made in an IATF certified factory for mission critical drivetrain applications and the BMU6201NL which is qualified for Qualcomm QCA700x chipsets for external charger links between the OBC and Charger Unit, detecting V2G faults and cutting off the power.

Samples stock are available for designer interested in building solutions with Power Line communications for home, office, commercial and industrial outdoor EV and battery charging.

Pulse also offers a wide selection of EMC and power inductors, transformer, inverters and converters – Talk with Pulse’s FAE team to find the right solution for you.