REDZ
SMART COMMUNICATION

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BSB Series Broadband Power Line (BPL) Switches

with 1, 4 or 7 × 10/100Base-T(x) Ports
and BPL (Broadband Power Line) Link

Main Features

- Supports up to 7 × 10 / 100Base - T (X) ports + 1 × BPL link
- Power Options:
  AC Power Input 110V–240V/50-60Hz
  9-36V DC Power Input
- Data Connectivity Options:
  Phase to Phase AC Power Line
  Phase to Neutral AC Power Line
  DC Power Line
- Supports Full / Half-Duplex, auto MDI / MDI-X on each port
- Wide operating temperature range from -40 to 85 °C
- Rugged Metal IP-40 housing design
- DIN-Rail mounting
- Supports up to 30Mbps PHY rate on BPL with Up to 10 hops and 1000 nodes
- Up to 432 sub-carriers from 2 to 28MHz analog bandwidth
- Rupport LDPC-C FEC with 128-bit AES core
- Plug and play with Master/Slave selection via switch

Technical Specifications

Technology

Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-T(X) IEEE 802.3x Flow Control
Mac Table	1K MAC address entry
Processing	Store-and-Forward
Memory	448K bits packet buffer memory
Auto Power Saving Mode	Automatically enters this mode if no cable link is established.

BPL (Broadband Powerline) Technology

PHY Data Rate	Up to 240 MHz
MAC Layer Protocol	CSMA/CA
Modulation Technology	OFDM-432
VLAN	IEEE802.1q / IEEE802.1p / IEEE802.3d

Interface & Indicators

Power indicator	Power LED
10 / 100 TX RJ45	Activity LEDs
LEDs	• BPL Activity • BPL Link • Master Indication **LED ON:**Master **LED OFF:**Slave
Master / Slave Switch for BPL	Selection for BPL whether to operate as Master or Slave

Power And Data Inputs

Power Input Options	Powering up device is only done over Terminal pins 1 and 2. AC Model: Device can be powered up with AC input, this option is available in both PN and PP models. It accepts, 110V–240V/50-60Hz. (Power Input can also be used for data transmission in PN Models.) DC Model: Device can be powered up with 9-36V DC power. Data transmission only done through terminal pins 3 and 4. This model can be used if DC power source will be used in the field and available with PP or DC model.
Data Input Options	PP Model: Phase to phase model (Standart Model). Data transmission is only done through terminal pins 3 and 4. AC Phase to phase connection should be done to data transmission pins for better performance. If phase to phase connection is not available then phase and neutral can still be connected for data transmission over terminal pins 3 and 4. (Ex: L1-L2, L2-L3, L1-L3 or L1-2-3 to N can be used as data connection) PN Model: Phase to neutral model. That version gets power from terminal pins 1 and 2 from phase and neutral and it can also transmit data from that pins (pins 1 and 2). Remaining (pins 3 and 4) pins usage is optional. (Ex: Master can be connected to all phases and slaves can be connected to relevant phases) (Ex: L1-N, L2-N, L3-N or L1-2-3 and N can be used as data connection) DC Model: DC data line model. Uses DC Power Line for data transmission. (Ex: 24V+ and GND as data connection)

Physical & Environmental Characteristics

Enclosure	Metal, IP 40
Dimensions	43 × 95 × 124 (w × d × h) mm
Weight	~400 gr
Storage Temperature	-65 to 150 °C
Operating Temperature	-40 to 85 °C
Operating Humidity	5% to 95% Non-condensing

Ordering Information

BSB612 - PN - AC: Industrial Unmanaged Ethernet Switch, 1 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 3 Phase AC Power Input, 110V–240V/50-60Hz, Phase to Neutral Connection on Data Terminals

BSB612 - PP - AC: Industrial Unmanaged Ethernet Switch, 1 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, AC Power Input 110V–240V/50-60Hz, Phase to Neutral and Phase to Phase Connection on Data Terminals

BSB612 - PP - DC: Industrial Unmanaged Ethernet Switch, 1 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 9-36V DC Power Input, Phase to Neutral and Phase to Phase Connection on Data Terminals

BSB612 - DC - DC: Industrial Unmanaged Ethernet Switch, 1 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 9-36V DC Power Input, DC Power Line Connection on Data Terminals

BSB615 - PN - AC: Industrial Unmanaged Ethernet Switch, 4 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 3 Phase AC Power Input, 110V–240V/50-60Hz, Phase to Neutral Connection on Data Terminals

BSB615 - PP - AC: Industrial Unmanaged Ethernet Switch, 4 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, AC Power Input 110V–240V/50-60Hz, Phase to Neutral and Phase to Phase Connection on Data Terminals

BSB615 - PP - DC: Industrial Unmanaged Ethernet Switch, 4 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 9-36V DC Power Input, Phase to Neutral and Phase to Phase Connection on Data Terminals

BSB615 - DC - DC: Industrial Unmanaged Ethernet Switch, 4 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 9-36V DC Power Input, DC Power Line Connection on Data Terminals

BSB618 - PN - AC: Industrial Unmanaged Ethernet Switch, 7 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 3 Phase AC Power Input, 110V–240V/50-60Hz, Phase to Neutral Connection on Data Terminals

BSB618 - PP - AC: Industrial Unmanaged Ethernet Switch, 7 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, AC Power Input 110V–240V/50-60Hz, Phase to Neutral and Phase to Phase Connection on Data Terminals

BSB618 - PP - DC: Industrial Unmanaged Ethernet Switch, 7 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 9-36V DC Power Input, Phase to Neutral and Phase to Phase Connection on Data Terminals

BSB618 - DC - DC: Industrial Unmanaged Ethernet Switch, 7 × 10/100 T(x) ETH ports + 1 x BPL (Broadband Power Line) Link, 9-36V DC Power Input, DC Power Line Connection on Data Terminals

Product Selection

Model	9 – 36V DC Power Input	110 V – 240 V / 50 – 60 Hz AC Power Input	Phase to Phase or Phase to Neutral Connection on Data Terminals	Phase to Neutral Connection on Data Terminals (Up to 3 Phases Connection)	DC Power Line Connection on Data Terminals	7 × 10/100 T(x) ETH Ports	4 × 10/100 T(x) ETH Ports	1 × 10/100 T(x) ETH Ports	BPL (Broadband Power Line) Link
BSB612 - PN - AC		●		●				●	●
BSB612 - PP - AC		●	●					●	●
BSB612 - PP - DC	●		●					●	●
BSB612 - DC - DC	●				●			●	●
BSB615 - PN - AC		●		●			●		●
BSB615 - PP - AC		●	●				●		●
BSB615 - PP - DC	●		●				●		●
BSB615 - DC - DC	●				●		●		●
BSB618 - PN - AC		●		●		●			●
BSB618 - PP - AC		●	●			●			●
BSB618 - PP - DC	●		●			●			●
BSB618 - DC - DC	●				●	●			●