



CURRENT® family

MV BPL

api-2000-sa2 Modem

Reliable innovation. Personal solutions.

Preface

The Ormazabal **CURRENT® family Communication Portfolio** provides real-time, **Connected Intelligence™** that allows you to cost effectively connect to locations or assets within your distribution grid.

Our **MV BPL api-2000-sa2** is a small, compact, stand-alone Medium Voltage Broadband Powerline communication product to extend communications over medium voltage (MV) lines. Together with our **MV BPL Coupler** it provides a powerful and field proven communication solution.

Combined with **CURRENT® family** network and device management software **OpenGrid®** Networking, our **MV BPL** maximizes total Smart Grid benefit for capital invested whilst reducing overall cost and risk. Simply easy to use!

Proven Technology

The **MV BPL** is our latest offering in the **api-2000** product line and features the robust **MV BPL** solution based on OPERA technology that has been widely and intensively tested in different **MV/LV** environments.

Our **MV BPL** modem has reached a high degree of maturity and offers several benefits:

- » It offers sufficient bandwidth to aggregate various utility data traffic generated from a large quantity of substations.
- » It contains a built-in filter to support two frequency bands for seamless deployment.
- » It contains a built-in splitter to enable the connection of two **MV BPL Couplers** directly without external components.
- » It supports High Availability solutions with multiple master and backhaul connections to realize a scalable redundancy of the communication network.
- » It is easy to integrate into your utility's core network.

Managed Solution

OpenGrid® Networking is a highly scalable network management software platform that allows your utility to remotely provision, manage, troubleshoot and control software versions as well as manage assets.

OpenGrid® offers you a cockpit to manage your devices - an easy-to-use web-based graphical interface.

Key features and benefits

Fully Managed Solution

OpenGrid® Networking greatly reduces the cost of ownership with savings in all areas, including turn-key provisioning, Smart Grid analytics and increased system availability through real-time monitoring and maintenance tools.

High Availability

The High Availability solution allows operation of the communication even in case of individual link or device loss.

It is fully managed and supports configuration and recovery of the network.

Cost effective

Together with our **MV BPL Coupler**, the **MV BPL** modem forms a very compelling cost model for **MV BPL** technology that is unrivalled in the industry.

Security

All Ormazabal **CURRENT® family Communication** products fully support a variety of mechanisms to ensure the confidentiality and data integrity of the data transmitted through the communication network.

Based on Industry standards

SNMP agents enable efficient integration into standard network management systems. HTTP enables individual node configuration and monitoring through an easy to use graphical user interface.

Designed for utility use

The units are designed to fit in your utility distribution substation environment.

Standard Protocols

The **MV BPL api-2000-sa2** supports a wide range of standard protocols that assure seamless integration of any Smart Grid communications solutions.

- » AMI, bringing meter data from the transformer stations to the meter data management system.
- » Transformer monitoring, protection and control equipment in the transformer station to the SCADA.
- » Renewable generation connection to the monitoring and control communication network.

Our **MV BPL** is a vital part of the Smart Grid communications infrastructure. It supports and extends other existing communication infrastructures like fiber or wireless in areas where these are technically challenging and costly to use.



Technical data

Technical features

Dimensions	[W / H / D]	195 / 150 / 75 mm
Enclosure		Metal fixed configuration, model 9136-2
Mounting		DIN rail
Operating Temperature		-25°C to +70°C
Storage Temperature		-25°C to +70°C
IP Rating		IP51 when mounted vertically, faceplate down
Electrical Power		48 VDC -20% +30%, 200 mA Max 8 W
Approvals		Directive 2006/95/ec: Low Voltage Electrical Equipment (LVD); Directive 2004/108/ec: Electromagnetic Compatibility (EMC)
Safety		ITE Safety – General Requirements: IEC 60950 - 1:2005, class II, double insulation Measuring relays and protection equipment / Product safety requirements: IEC 60255-27:2005
Accessories		MV BPL Coupler
Data Security		AES-128, AES-256, 3DES, DES encryption
Network Management		Integrated management w/SNMPv2, OpenGrid® Networking
Network Protocols		TCP/IP, DHCP, FTP, VLAN, HTTP, RSTP, QoS
Filters/Splitters – Selectable		Full Band (2-34 MHz operation) Low Band (2-7 MHz operation)
Filters		High Band (8-18 MHz operation)
Port Specifications		
BPL-A & B		50 ohm BNC ports, selectable dual or single port operation, for connecting to couplers
BPL-C		RJ45 port for use with CURRENT ASDB 9124
Ethernet		RJ45 10/100 Ethernet port for device access
Console		RJ9 console port
PLC Signalling Specifications		
Modulation		OFDM, up to 1536 Sub Carriers
Data Rate		up to 200Mbps (PHY Layer)
Transmit Power		up to +24 dBm
Spectral Power Density		up to -50dBm/Hz

