

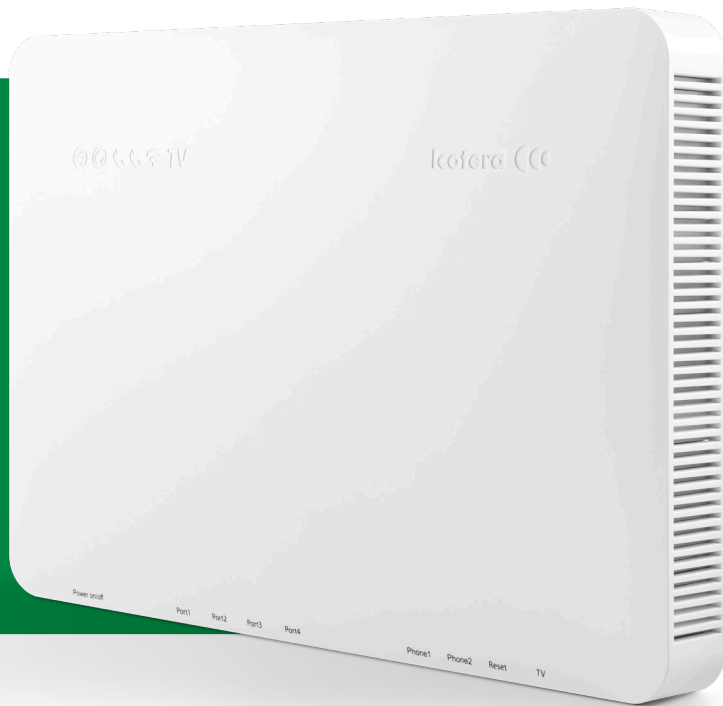
P2P FTTH GATEWAY

i6900-series

Residential Multi-Service Gateway

The Icotera i6900 Multi-Service Gateway integrates optical Ethernet-based gigabit data transmission with Layer 2-4 functionality, and CATV.

- Ease of use & installation
- Vendor independent
- Multi-Service Gateway for wholesale network operators
- Award-winning industrial design



Powerful hardware platform

The Icotera i6900 Fiber-to-the-Home (FTTH) Multi-Service Gateway demonstrates its great strength by bringing together a wide feature set and flawless performance. Its foundation is built on a powerful, cutting-edge dual-core architecture. This, paired with an ASIC for packet forwarding, ensures the platform is always ready to cope with additional tasks while processing VoIP, Gigabit routing of IPv4 with NAT, IPv6 and stateful filtering, traffic switching and bridging.

Innovative feature set

The i6900 provides exceptional Layer 2 functionality that can effortlessly handle 16 bridging instances, multiple WAN interfaces, PPPoE and in-band secure management. The CATV AGC receiver offers

broadband cable-television services to the subscriber with seamless monitoring and configuration of the power levels. As an optional feature, this FTTH gateway offers a complete and customizable filter solution with low-pass filters for individual RF channel plans.

Ease of control

A great variety of management protocols such as SNMP v1/v2, Syslog, SSH, Telnet and TR-069) is integrated and supported, which guarantees effortless control over the i6900. Paired with our fail-proof, zero-touch auto provisioning mechanism, they provide easy and trouble-free daily operations. To guarantee trouble-free firmware roll-outs in harsh network environments, the i6900 also comes with dual-bank flash memory.

i6900 Multi-Service Gateway

FEATURES

- Vendor-independent
- Award-winning industrial design
- Low power consumption
- Optional operator branding

NETWORK COMMUNICATION WAN INTERFACE

- Single-mode fiber (ITU-T G.652) SC/PC connector
 - 100BaseBX10/20 compliant
 - 1000BaseBX10/20 compliant
- Tx: 1310 nm, Rx: 1480 nm - 1600 nm
- Full-duplex transmission
- Operating distance: 20 km
- Transmit power: -7 dBm to -2 dBm
- Receive sensitivity: -3 dBm to -23 dBm
- Class 1 laser product
- Auto detection of 100 Mbps or 1 Gbps

LAN INTERFACES

- 4 x 1G LAN
- Auto-negotiation for speed and duplex
- Integrated cable tester to detect the following metrics:
 - Short
 - Open
 - Impedance mismatch
 - Cable length

LAYER 2

- 16 bridge instances
- 64 byte forwarding at line rate
- Jumbo 9k packets
- IGMP v1/v2 snooping
- Transparent IPv6 forwarding
- Forwarding up to 2k MAC addresses
- Multicast support
- VLAN translation
- VLAN 802.1Q support
- Port mirroring
- Advanced QoS for wholesale support

LAYER 3

- Virtual interfaces
- Multiple WAN interfaces in one router
- 64 byte forwarding at line rate with routing/NAT
- IGMP v1/v2 proxy with fast-leave and monitoring
- Stateful firewall
- IPv4
 - SNAT, DNAT, DMZ
 - DNS proxy
 - DHCP client and server
- IPv6
 - Prefix delegation
- PPPoE (termination)
- 32K NAT/NAPT flows
- Tracking the connection status in the CLI
- RTSP stateful proxy
- Protocol helpers for: SIP, RTSP, FTP, TFTP, PPTP, L2TP, and IPSec
- Guest access

QoS

- Support for Strict Priority and Weighted Fair Queuing (available for Layer2 mode)
- 8 upstream or downstream queues (available for Layer2 mode)
- Class of service based on VLAN-ID, 802.1p (available for Layer2 mode)
- Marking and remarking of 802.1p (available for Layer2 mode)
- Marking and remarking of DSCP/ToS (available for Layer2 mode)

CATV (OPTIONAL)

OPTICAL PARAMETERS

- Input wavelength: 1550 nm - 1560 nm
- Input level range: -9 dBm to 2 dBm
- Optical connector: SC/APC

RF PARAMETERS

- RF output impedance 75Ω
- Frequency range pass-band: 45 MHz - 890 MHz
- Frequency range Filter1: 430 MHz - 890 MHz
- Frequency range Filter2: 590 MHz - 890 MHz
- Slope (maximum): 5 dB
- RF output level (2.5% - 4% OMI, -8 dBm to 0 dBm): 80 ± 2dBμV
- RF output level @ AGC-high mode (2.5% - 4% OMI, -6 dBm to 0 dBm): 85 ± 2dBμV
- CNR ≥ 45dB
- CSO ≥ 60dB
- CTB ≥ 60dB
- Management via OMCI

VoIP (optional)

- 2 separate POTS lines SIP (RFC3261)
- Up to 5 ringer equivalence numbers (REN)
- DTMF signaling
 - SIP INFO
 - Inband
 - Auto
 - RFC 2833
- Caller ID support (DTMF/FSK)
- CLIR
- Advanced dialplan
- Called party (B-Number) manipulation
- Class 5 services
 - Forward all calls
 - Forward on busy
 - Forward on no answer
 - Call waiting
- Codecs:
 - G.711A a-law
 - G.711U μ-law
 - G.722 - G.729
- Codec negotiation
- Modem or fax detection
- G.165 echo cancellation

MANAGEMENT & MONITORING

- Shared or separate IP interface for management
- L1 and L3 filters for all local services
- SSHv2 with key authentication
- Telnet with authentication
- Configurable web interface for end users:
 - LAN network
 - Port forwarding
 - NAT loopback
 - DMZ
 - DynDNS
 - Status and monitoring
- Zero-touch provisioning with DHCP, TFTP, HTTP, FTP, or TR-069
- TR-069 with TLS:
 - TR-104 (VoIP)
 - TR-181 (Network)
- SNMP v1/v2
- CLI with auto-completion
- Firmware upgrade from a USB drive
- Extensive debug possibilities
- Packet dumping
- All settings are stored locally in flash memory
- Automatic firmware and configuration update (polling)
- Dual bank flash memory with fail-safe firmware upgrading
- LED brightness configurable by the operator or end-user

- Hardware watchdog
- Wake-on-LAN for the web interface and CLI

OPERATIONAL SPECIFICATIONS

- DC 12 V input
- Power consumption maximum: 16.7 W
- Power consumption in idle state: 5.5 W
- Operating temperature: 5°C - 45°C
- Storage temperature: 5°C - 85°C
- Humidity: 5% - 95% (noncondensing)

PHYSICAL SPECIFICATIONS

CASING

- Size: 235 x 164 x 36 mm (W x H x D)
- Weight: 462 g
- WAN LED indicator for the connection status
- LAN LED indicator for the link status
- VOIP LED indicators for the registration status
- CATV LED indicator for the signal status
- Status LED indicators for link, traffic, and duplex for each LAN port
- LED auto off after timeout period

FIBER TERMINATIONS

- Slide-on mechanism for easy installation
- FTU support for
 - Gas block unit (sold separately)
 - WDM filter (sold separately)
- Blind cover for FTU (optional)

INCLUDED IN THE BOX

- Icotera i6900 gateway
- 12 V power supply unit
- 2 labels with the PON serial number

i6900 multi-service gateway configuration possibilities



Gateway interface configurations

Model	Uplink	LAN ports	POTS ports	Micro SD card	Wi-Fi	Antennas	CATV output	Gateway top	Gateway bottom
i6901-20	P2P MSGW	4xGE	2x	-	-	-	1x	Printed: English ports + logo	FTU
i6902-20	P2P MSGW	4xGE	-	-	-	-	1x	Printed: English ports	FTU
i6905-20	P2P MSGW	4xGE	2x	-	-	-	-	Printed: English ports + logo	FTU

For more information and feature requests, contact our Sales department at sales@icotera.com.