

# P2P LAYER 2 SWITCH

## i6400-series

Residential Switch

The Icotera i6400 Layer 2 residential fiber switch, prepared for Open Access networks, integrates optical Ethernet-based data transmission with Layer 2-4 functionality, CATV, and USB.

- Ease of use and installation
- Vendor-independent
- Award-winning industrial design
- Lowest total cost of ownership



### Strong hardware base

The Icotera i6400 is a fully-featured Layer 2 fiber switch with an advanced feature set. i6400 is targeted towards open access networks and, in general, operators with a layer 2 demarcation point. All switching is done in hardware, resulting in lightning-fast wire-speed gigabit transfer rates and giving the instant-on feeling for the end-user.

### State-of-the-art features

The i6400 is a complete, feature-full package of Layer 2 functionalities. Gigabit rates and instant forwarding due to powerful switching capability, optical signal auto-detection and support of 100Base-BX-10/20 and 1000Base-BX standards is a clear token of this high-quality switch. The CATV AGC receiver gives the subscriber cable television access with power level configuration and monitoring. To top it off, this fiber switch offers (optionally) individual RF channel plans in a complete filter solution with high-block band attenuation.

### Extensive functionality

The i6400 offers an advanced array of traffic control and shaping features, such as Ethernet and IP filtering up to layer 4, MAC address limiting, IP source guard, and VLAN forwarding and filtering. Agile reduction of traffic overhead is managed by jumbo frame forwarding leading to lower packet rates. Adaptive mechanisms control the quality of the optical signal (CATV and DATA). As a result, users can swiftly zero in on any problems in the upstream network. Ethernet link performance is continuously controlled by 802.3ah OAM instruments that allow prompt resolution of any arising problems. Link state information is propagated on both WAN and LAN side and power consumption is managed with advanced management capabilities.

### Full control and management

The i6400 can easily be managed by protocols such as EOAM, SNMP v1/v2, SSH/Telnet and TR-069. Supported by our zero-touch auto provisioning mechanism it allows for easy and trouble-free daily operations.

# i6400 Residential Switch

## 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
- 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
- 1 x 1G/SFP for the i6407 model

## 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

- 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

## LAYER 3

- Management WAN interface
- OSI Layer 3 and 4 filtering by ACLs

## USB

- 1 x USB 2.0 host port

## CATV (OPTIONAL)

### OPTICAL PARAMETERS

- Input wavelength: 1310 nm - 1550 nm
- Input level range: -9 dBm to 2 dBm
- Optical connector: SC/APC

### RF PARAMETERS

- RF output impedance 75Ω
- Frequency range: 45 MHz - 890 MHz
- Slope (maximum): 5 dB
- RF output level (4% OMI, -8 dBm to 0 dBm): 80 ± 2dBμV
- CNR ≥ 45dB
- CSO ≥ 60dB
- CTB ≥ 60dB
- Management via OMCI

## MANAGEMENT & MONITORING

- IPv4 management interface
- Separate VLAN (optional)
- Access filtering based on IP source network
- Zero-touch provisioning with DHCP, TFTP, HTTP, FTP, and TR-069/TR-181 with HTTPS
- Multicast analyzer
  - Debugging of live multicast streams
  - Provides detailed information from MPEG-TS and RTP layers
- Host simulation tool
- Adjustable outage portal
- 64-bit port counters
  - Unicast
  - Packet size (64, 128, 256, 512, 1024, 1518, 9k)
  - Multicast
  - Broadcast
  - FCS error
  - Align error
  - Undersized
  - Fragmented
  - Too long
  - Good byte
  - Bad byte
  - Overflow
  - Filtered
  - Collisions
- SNMP v1/v2
  - IF-MIB2
  - Icotera private MIB
  - Community protected
  - Traps
- 802.3ah OAM
  - Link performance monitoring
  - Fault detection
  - Loopback testing
- Automatic firmware and configuration update (polling)
- Dual bank flash memory with fail-safe firmware upgrading

## OPERATIONAL SPECIFICATIONS

- DC 12 V input
- Power consumption maximum: 6.7 W
- Power consumption in idle state: 1.9 W
- Operating temperature: 5°C - 45°C
- Storage temperature: 5°C - 85°C
- Humidity: 5% - 95% (noncondensing)

## PHYSICAL SPECIFICATIONS CASING

- Size: 191 x 132 x 49 mm (W x H x D)
- Weight: 388 g
- WAN LED indicator for the connection 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

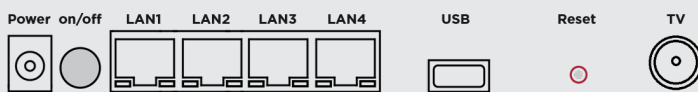
## FIBER TERMINATIONS

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

## INCLUDED IN THE BOX

- Icotera i6400 switch
- 12 V power supply unit
- 2 labels with the PON serial number
- Fiber termination unit (optional)
- Screw (optional)

## i6400 residential switch configuration possibilities



### Gateway interface configurations

Model	Uplink	LAN	USB	CATV	Bottom
<b>i6401-51</b>	BX20	4x	1x	1x	FTU / Patch
<b>i6405-51</b>	BX20	4x	1x	-	FTU / Patch
<b>i6407-50</b>	RJ45 + SFP	4x	1x	-	Patch (Roll-up)

For more information and feature requests, contact our Sales department at [sales@icotera.com](mailto:sales@icotera.com).