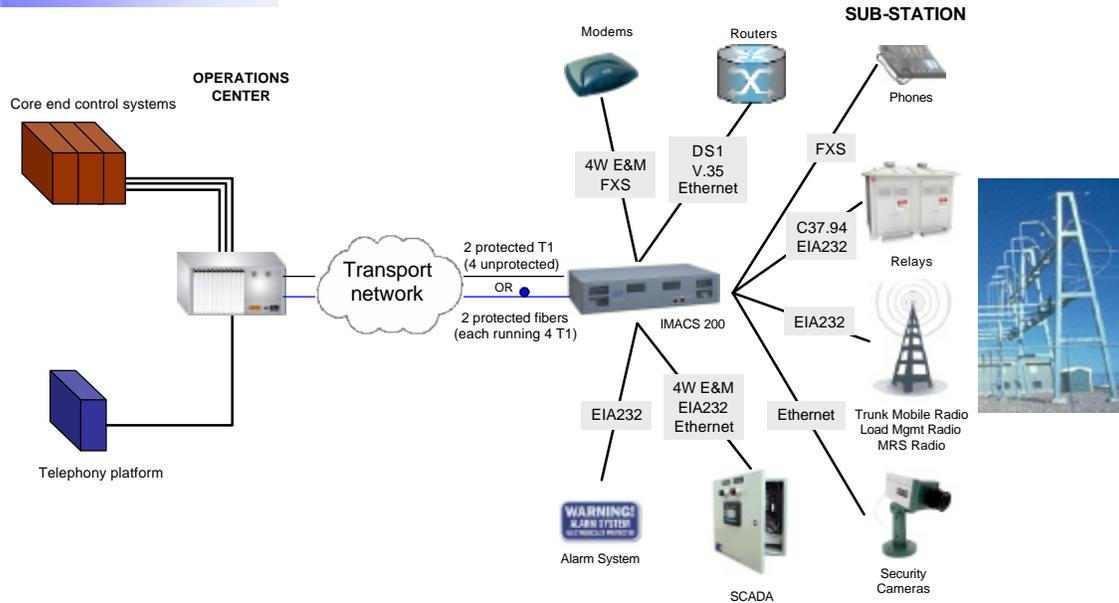


# IMACS Sub-Station Communication Manager

## Application Sheet



✓ **Key benefits of an IMACS Sub-Station Communication Manager are:**

- *Security & reliability*
- *Simplicity*
- *Ease of deployment*
- *Complete System Management*
- *Powerful Diagnostic and Fault Isolation*
- *Proven, Approved, Deployed Over 80,000 systems worldwide*

Communications are vital for the continuous operation of power plants and the distribution of electricity to customers. Reliable transmission of mission-critical voice and real-time data between power plant control centers and remote sites is required to integrate all processes and services including network management, automation and protection.

Designed for the unique needs of electric utilities, the IMACS system supports a wide range of specialty traffic, including teleprotection (EIA-232 and IEEE C37.94 optical interface to protection relays), SCADA, surveillance video, substation automation and alarms, radio, Ethernet WAN/IP and telephony.

## IMACS platforms

There are 2 platforms available for the IMACS. The IMACS-200 is a fixed 2U configuration unit that is especially designed to address the needs of utility power stations communication requirements. The IMACS 600/800/900 is a card based product that offers a larger array of interfaces and higher density.

### ✓ *IMACS-200 highlights*

- Security & reliability
  - Most widely deployed channel bank in mission critical applications such as emergency systems and military.
  - IEEE C37.94 fiber-optic connections provide isolation from dangerous ground potential rise, prevent induced electrical noise, and eliminate signal ground loops.
  - Supports IEEE 1613 environmental (-40OC to +70OC)
- Simplicity
  - One device is used for all data, control, monitoring and voice communication
- Ease of deployment
  - Only 2U high
  - User friendly menu interface
- Powering options (factory configurable)
  - -48 Vdc, 125 Vdc, 120/240 Vac
  - Redundant power supplies
- WAN interfaces
  - 4 T1/E1 ports
    - ◆ 4 working or 2 working/2 protection
  - Optical T1/E1
    - ◆ 8 Mbps max (@ 4 x E1)
    - ◆ Factory configured option
- 128 X128 DS0 non-blocking any-to-any cross connect



*Easy-to-use Online Element Management System provides full remote management capabilities. The IMACS also supports SNMP and local management connections through either serial & Ethernet ports.*

### ✓ *IMACS 600, 800, and 900 highlights*

- The IMACS 600, 800, and 900, differ in their card capacity and card install options (front, or front and rear). All models support the same range of modular cards, power supplies, and system redundancy options.



## IMACS interfaces

Port type	Sub-Station Applications	IMACS 600/800/900		IMACS 200
		Port per card	Ports / Chassis <sup>*</sup>	Ports/Unit
▶ 2 Wire FXS, FSD	Voice, modems	8	62	4
▶ 4 Wire E&M/TD	Modems, SCADA	8	62	4
▶ ISDN (BRI-U, BRI-S/T)	Routers	8	64	
▶ V.35, RS-530, RS-449	Routers	2, 4	32	2
▶ RS-232, V.24 (SRU)	Relays, MRS Radio, LM Radio, TM Radio, Scada, Alarm Systems	10	80	5
▶ RS-422 (SRU)	Relays	4	32	
▶ DDS (OCU-DP)	Relays	2, 5, 10	80	
▶ DSO-DP, G.703	Scada	4	32	
▶ Ethernet, 10B-T or 10B-2	Video cameras, routers, SCADA	1	8	1
▶ Frame Relay	Routers	1	3	
▶ IEEE C37.34 Optical	Relays (optical)	2	16	2
▶ SHDSL	NA	4	32	
▶ Alarm inputs	Telemetry		Up to 28	4
▶ Alarm outputs	Remote activations		Up to 14	4

<sup>\*</sup> IMACS 800 or IMACS 900 chassis

## Vendor interoperability

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Zhone has validated C37.94 relay functionality with the following key vendors:



## Pricing and incremental information

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Please contact your local representative listed below for more information on the sub-station application and to get pricing information:



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