



## Application

Y-Switch YS-110A card is designed for the operation on telecontrol lines. It enables redundancy feature on SCADA systems by providing two independent paths of data transfer in both send and receive directions. Normally YS-110A connects to two Front End Processors (FEP) in a system in a redundant manner, while a SCADA modem provides main link to the Y-Switch

Data transfer is supported in serial format and YS-110A is transparent to the user data. Full and half duplex operations are possible without special additional provision. It is designed for the transfer characteristics of local-cable-wires. Light emitting diodes (LEDs) indicate the most important operation states, including the selected (active) FEP link as well as receive and transmit signals.

## Characteristics

Each 19" subrack contains 18 YS-110A Y-Switch cards with a height of 3U. Every subrack is equipped with an AC/DC or DC/DC power supply to provide proper voltages for the cards.

Within a standard 19" subrack the board occupies one 4-hp (2R) slot. The power supply card occupies the first 12-hp slot from the left side. The power supply can be delivered in two different rubrics (versions) for two different supply voltages. Within its standard power supply module, it supplies itself by the 220 V AC (R0001). The rubric R0002 will be used if only 48 V DC are available.

Utilizing advanced logic schemes, YS-110A can decide based on the status of Data Terminal Ready (DTR) signal to switch one of the FEPs to modem link.



Figure 1. 3U subrack with 18 Y-Switches and one power supply unit

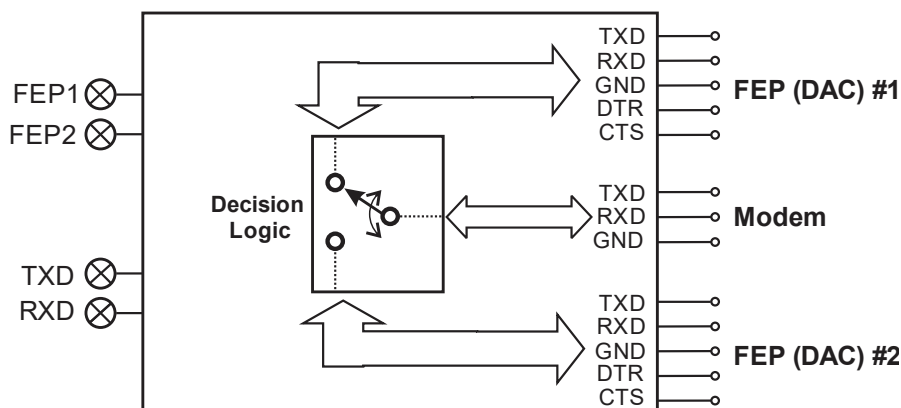


Figure 2. Block diagram of YS-110A

### Serial interface to FEP\* (DAC)

Signal definition	V.24 / V.28 (RS-232)	
Signal lines	TXD	Pin #5
	RXD	Pin #6
	DTR	Pin #3
	CTS	Pin #7
	GND	Pin #4

\* Data Acquisition Center (DAC) is used interchangeably with FEP in this document and on the device guidelines.

### Serial interface to Modem

Signal definition	V.24 / V.28 (RS-232)	
Signal lines	TXD	Pin #5
	RXD	Pin #6
	GND	Pin #4

### Connection Type

Connector	FEP1 and FEP2: RJ45 Female
	Modem: RJ45 Female

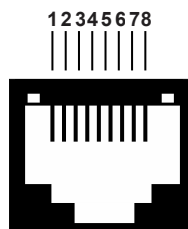


Figure 3. RJ45 Female connectors on YS-110A

### LED indicators

FEP1 – FEP2	Red LEDs; ON: FEP link is connected. OFF: FEP link is disconnected.
TXD – RXD	Green LEDs; Transmit / Receive data. Polarity of LEDs is selectable by jumpers.

### Power Supply

Supply (each unit)	5 V DC / 80 mA
Supply (total- 18 units)	48 V DC / 0.3 A 220 V AC / 90 mA

### Mechanical Layout

Printed circuit board	3HE, Euro-card 160 x 100 mm
Front panel	2R, 1 slot 20 mm
Weight approx.	190 gr

### Environmental Conditions

Temperature	0 ... 40 °C
Relative humidity	5 ... 95 % non condensing

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Subject to alteration