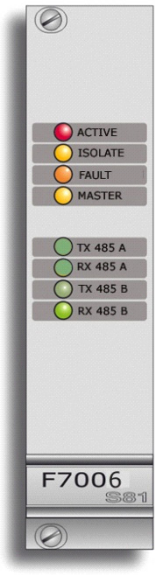
F7006 Modbus Protocol Serial Communications Card

This Modbus RTU Master/Slave protocol communication card provides two independent output ports: one RS485 (Half Duplex) and one RS232.



Main Characteristics

- Non-redundant with double connection (note 1)
- Can be hot-swapped (note 2)
- Modbus RTU protocol
- Master or Slave configuration
- Manages the following variables:
  - –512 Boolean input variables (32x16-bit words)
  - –512 output Boolean variables (32x16-bit words)
  - –130x16-bit analog variables
- Analog variables are related to 4-20 mA input card values
- One RS 232 serial + 1 RS 485 serial line usable simultaneously
- MODBUS address and parameter configuration through two 8-selector dip switches
- Periodical functionality self-testing of card and all connected devices
- Communication management by FPGA
- SMD technology multilayer circuit
- Front plug-in on 19" rack, with locking screws

LED	Status	Indication
ACTIVE	⊗	One input variable is active
DISABLED	⊗	One input or output variable is disabled
FAULT	∅	Communication fault (in Master mode only)
MASTER	∅	Master mode operation
TX RS232	∅	Any transmission from RS232 port
RX RS232	∅	Any receipt on RS232 port
TX RS485	∅	Any transmission from RS485 port
RX RS485	∅	Any receipt on RS485 port
LED status legend		⊗ = on ∅ = blinking

Operation

In MASTER mode, the card is only used for connecting, through the RS 485 port, two peer-to-peer or Master/Slave S81 panels.

In SLAVE mode, the card is used to respond to the requests from an external supervisory system - which may be a PC, a PLC, another panel, a PES, or a SCADA - cyclically interrogating the S81 panel to update its data base.

Further information on card operating mode can be provided, upon request, in a specific document describing the parameters used by the protocol.

Parameter Configuration Via Software

Parameter	
MODBUS address	1 to 255, through 8-selector dip switch SW1
SLAVE mode	address refers to F7006 card
MASTER mode	address refers to SLAVE peripheral to be sent controls
Baud rate settable through SW2 (1-2-3)	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Parity settable through SW2 (4-5)	none, even, odd
RS 485 line terminable with jumper	120 Ohm

Connection Via Cable Plug

Connection between the card and the field is carried out by means of a special cable, provided with a plug-in connector at one of its ends. Cable conductors are wired directly onto a marshaling terminal block, while the connector is plugged into the back of the rack or into a DB9 type connector.

Function		Connection with PLUG CABLE	
TX DATA RS232	T	1	White
RX DATA RS232	R	2	Brown
GND	G	3	Green
Positive RS485	+	4	Yellow
Negative RS485	-	5	Gray
GND	G	6	Pink
		7	
		8	

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NOTE:
1. Redundancy - In fault-tolerant systems, this card has to be duplicated, i.e. two cards are to be used, which must be installed in two contiguous racks. Each input line from the field has to be connected to both cards and its exclusion is only possible from both of them.
2. Hot Swap - The card can be removed and replaced without switching off the panel.