Omni8C

Model C1493/4/5 8 Point Serial Displays.

DATASHEET

Features

- Drive Window displays from your serial port.
- Easy to configure Modbus protocol
- 24Vdc, 48Vdc or 85-264Vac/dc Powered
- Small , compact, panel mounted and easy to use
- Built in Alarm Flashing sequences to reduce PLC programming overhead.
- Choice of Lamp/Sidebar LED/Backlit LED Display
- User printed legends on inkjet/laser
- Four Optional Group Alarm output contacts
- Fully “DIP” Switch Configurable
- Optional Control Pushbuttons for operator feedback

The Omni16C Serial Display Product Range provides an easy-to-use alternative to providing Alarm Window facilities from your PLC, DCS or SCADA system.

Each of these products has a fully isolated RS232/RS485 serial interface that provides full control of up to 16 alarm and status windows. Up to 32 of these displays may be multi-dropped on a single RS485 twisted pair, providing up to 512 Window Status and Alarm display points from a single serial port acting as a Modbus Master. Each Display serial port acts as a Modbus slave, and can be set to either ASCII or RTU mode at baud rates from 300 to 9600 baud.

Display options include incandescent lamps, backlit LED and Sidebar LED indicator windows to provide the user with the best combination of power consumption, reliability, maintenance and cost for the application.

27 integrated alarm flashing sequences included in the display remove the need for programming of alarm sequences in the PLC/DCS reducing engineering charges and program space, while increasing reliability.

Optional integral Test, Silence, Acknowledge, Reset Pushbuttons allow Operator alarm acknowledgment without any additional programming.

Four optional output relays can be configured as group alarm, horn output and watchdog outputs.

SPECIFICATIONS

Power Supply Options

Voltage Option	24Vdc (STD)	20-60Vdc**	85-264Vac**
Isolation PSU to inputs	None	1500Vrms	1500Vrms
*** To be ordered as on option see Accessories list Fitted prior to shipment*			
Max dc Ripple	10% pk. to pk.	10% pk. to pk.	N/A
Consumption			
C1490	0.5 Amp max	0.6-0.3 Amps	0.4-0.3A
C1491	0.5 Amp max	0.6-0.3 Amps	0.4-0.3A
C1492	1 Amps max	1.1 –0.4Amps	0.6-0.3A

Alarm Inputs - Potential Free Contact

Quantity and Type	No Physical contact Inputs. 8 Inputs written to the display unit via the serial port using Modbus Protocol

Serial Port

Type	Single DB9 connector available on the rear of the unit supporting both RS232 and RS485 specifications.
Isolation	Serial Port galvanically isolated from display logic and power supply. (Tested to 1500Vac for 60 seconds)
Protocol	Modbus slave protocol.(RTU or ASCII)
Baud Rate	DIP Switch set 1200 – 9600 baud
Address Range	DIP Switch set : 1-15.

Modbus Register Layout Overview

Reg. No.	Description	Read/Write
	Dynamic Data	
0	16 Inputs as bits	R/W
1	16 Alarm Statuses as bits	R
2	5 Pushbutton Control Bits (plus read only 1st out and Flash sync bits)	R/W
3	Common Service Relays etc. Status Bits	R
4-11	Lamp Status bytes – one per window.	R/W
23	Alive Counter	R
24	Software Version Number	R
	Static/Configuration Data	
100	Product Type (14801 for this product)	R
101-108	16 Display Sequence Settings	R/W
109-116	16 Timer Settings	R/W
117	Relay Function set	R/W
119-122	Four Relay Output Alarm membership	R/W
123-126	Four Group Alarm Types	R/W
127	First-out Group split	R/W
128-133	Reserved	R/W
134	Miscellaneous Setup options	R/W

Integral Pushbuttons(Optional)

Quantity	Four buttons mounted on front facia
Functions	Silence; Acknowledge; Reset; Circuit Test

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Alarm Window Display

Quantity	8 Alarm windows		
Model	C1493B	C1494B	C1495B
Type	Backlit LED	Side bar LED	Incadescent Lamp
Window Size	24mmx64mm	21mmx51mm	24mmx64mm
Legend Area	21mmx60mm	20mmx40mm	21mmx60mm
Legend Type	User printed on film with laser/inkjet using software provided.	Engraved plastic window	User printed on film with laser/inkjet using software provided.

Relay Contact Outputs (optional)

Contact Type	2 Potential free changeover (Form C) 2 Potential free normally Open (Form A)
Contact Rating	2A 30Vdc or 0.5A 230Vac
Isolation	1000Vac from contact to other circuits

Temperature Range

Operating Temperature Recommended Humidity	0°C – 60 °C (+32°F – 140°F) Up to 90% RH, non condensing
Storage Temperature Recommended Humidity	-10°C – 70 °C (+14°F – 158°F) Less than 40% RH

Weight

Unpacked	1.8kg approx.
Packed	2.2kg approx.

Compliance to Standards

Ingress Protection (I.P.)	IP42 (front only)
Safety	EN 60950:1995
Emissions	EN55011 & EN50081-2:1994 Grp I Class A
Immunity – ESD	IEC 61000-4-2:1995, level 3
Immunity – RF Fields	IEC 61000-4-3:1995, level 3
Immunity – Fast Transients	IEC 61000-4-4:1995 2 kV – DC power port 1 kV – input/output lines
Supply Variations	IEC 61000-4-7:1991, 24 V dc +15% -10%
Vibration	IEC60068-2-6: 1995 10-150Hz. 1g

Sequence Options

Seq. No.	Sequence Description
1	LAMP FOLLOWS INPUT
2	MOMENTARY (FLEETING) ALARM, MANUAL RESET
3	ALARM ONLY (NON-LATCHING INPUTS) AUTO RESET
4	MOMENTARY ALARM, MANUAL RESET WITH ALARM RINGBACK
5	FIRST OUT, MULTIPLE GROUPS, MANUAL RESET
6	FIRST OUT, MANUAL RESET, AUTO RESET ON SUBSEQUENT ALARMS
7	FIRST OUT, SINGLE GROUP, MANUAL RESET, FIRST OUT CONTINUOUS FLASH
8	FIRST OUT, MANUAL RESET, SUBSEQUENT ALARMS WITHOUT HORN
9	MOMENTARY ALARM, MANUAL RESET, AUTO SILENCE AFTER TIME DELAY.
10	MOMENTARY ALARM, MANUAL RESET, REALARM AFTER TIME IF STILL ABNORMAL.
11	MOMENTARY ALARM, MANUAL RESET, CONSTANT FLASH (FOR MOTOR ALARMS).
12	MOMENTARY ALARM, AUTO RESET, TIME DELAY ON RETURN TO NORMAL.
13	PULSE MONITORING ALARM; MANUAL RESET
18	MOMENTARY ALARM, AUTO RESET
21	FIRST OUT, MULTIPLE GROUPS, AUTO RESET
23	FIRST OUT, SINGLE GROUP, AUTO RESET, FIRST OUT CONTINUOUS FLASH
24	FIRST OUT, AUTO RESET, SUBSEQUENT ALARMS WITHOUT HORN
25	MOMENTARY ALARM, AUTO RESET, AUTO SILENCE AFTER TIME DELAY.
26	MOMENTARY ALARM, AUTO RESET, REALARM AFTER TIME IF STILL ABNORMAL.
27	MOMENTARY ALARM, AUTO RESET, CONSTANT FLASH (FOR MOTOR ALARMS)
28	PULSE MONITORING ALARM, AUTO RESET
30	SERIAL PORT READ ONLY MODE
31	SERIAL PORT READ/WRITEMODE

ORDERING INFORMATION

ORDER CODE	DESCRIPTION
C1493B	LED Backlit Alarm Annunciator; 24Vdc (Order LED boards separately)
C1494B	Sidebar LED Annunciator; 24Vdc
C1495B	Incandescent Lamp Annunciator; 24Vdc

Accessories

To be ordered separately Will be fitted before delivery.

PSU Option – fitted into the Omni16C Housing.	
C1421	85-264Vac/dc Isolated Power Supply
C1422	30-60Vdc Isolated Power Supply
Common Services Card	
C1424	Common Services Card incorporating: 1. Multi Unit Synchronisation Facility 2. External Pushbutton Inputs 3. Four GP Relay Contacts
Repeat Outputs	
C1425	8 way Input Repeat Relay Board
C1426	16 way Ribbon-Header Repeat Output Board (Input and Lamp Repeats)
C1169	16 Way Repeat Lamp Driver Terminals
Pushbutton Stations	
C1420	Integral Pushbutton Station – (in window 16)
C1415	Remote Pushbutton Station with Audible
Window and Lamp Board Options	
Backlit LED	
C1150	Red Backlit LED Lamp Board
C1151	Yellow Backlit LED Lamp Board
C1152	Green Backlit LED Lamp Board
C1153	Blue Backlit LED Lamp Board
C1154	Orange Backlit LED Lamp Board
C1155	White Backlit LED Lamp Board
Incandescent	
C1160	Lamp and Holder 8 Window Pack
C1161	Incand. Lamp replacement 10 pack
C1162	Incand. Lamp replacements 100 pack
C1463	Assorted Colour Filter Kit
Sidebar LED	
C1448-1	Black engravable window
C1448-2	Red engravable window
C1448-3	Amber engravable window
C1448-4	Yellow engravable window
C1448-5	Green engravable window
C1448-6	Blue engravable window
C1448-7	White engravable window
C1446	Engraving for Sidebar Led Windows
Mounting Hardware	
C1431-01	Mounting Kit 2 High Stack
C1431-02	Mounting Kit 3 High Stack
C1431-03	Mounting Kit 4 High Stack
Interface Accessories	
C1168	OmniSet Programming cable for Prog Port
C1416	Ribbon Header to terminals converter
C6308	Ribbon to 16 Relays Form C 5A

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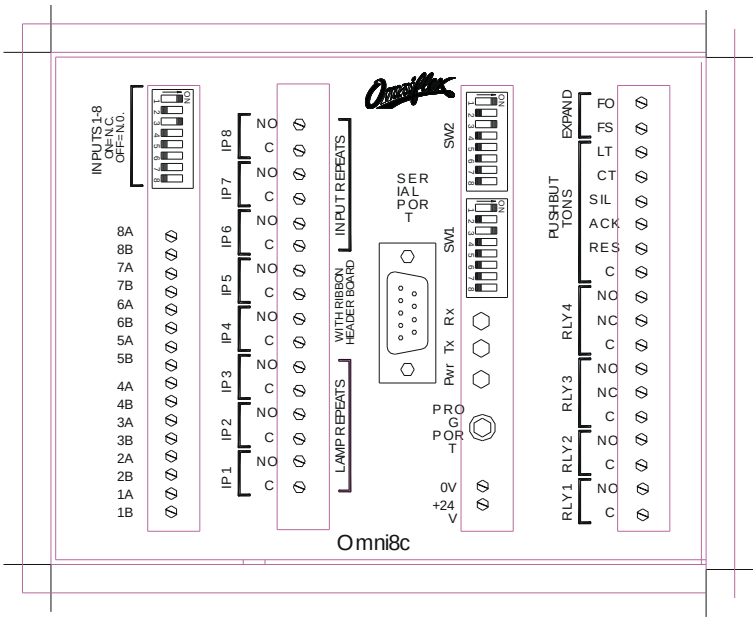
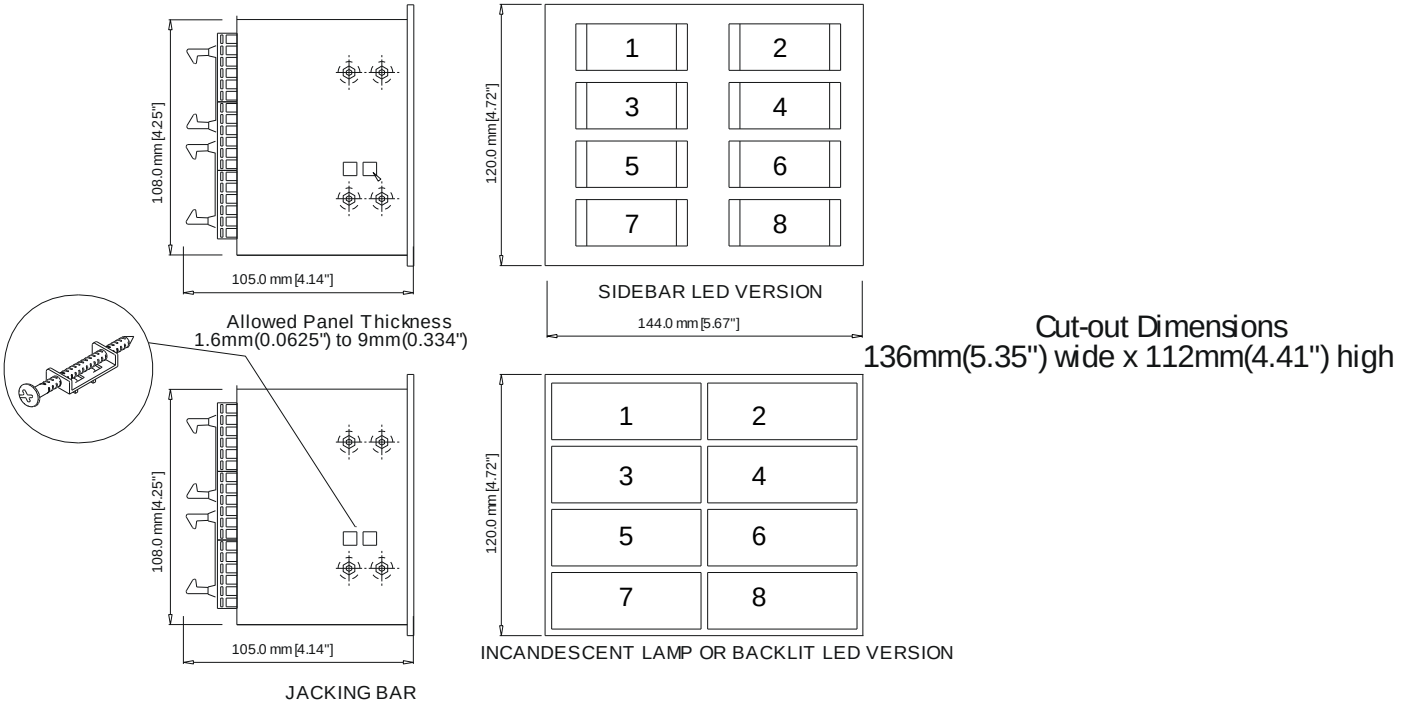
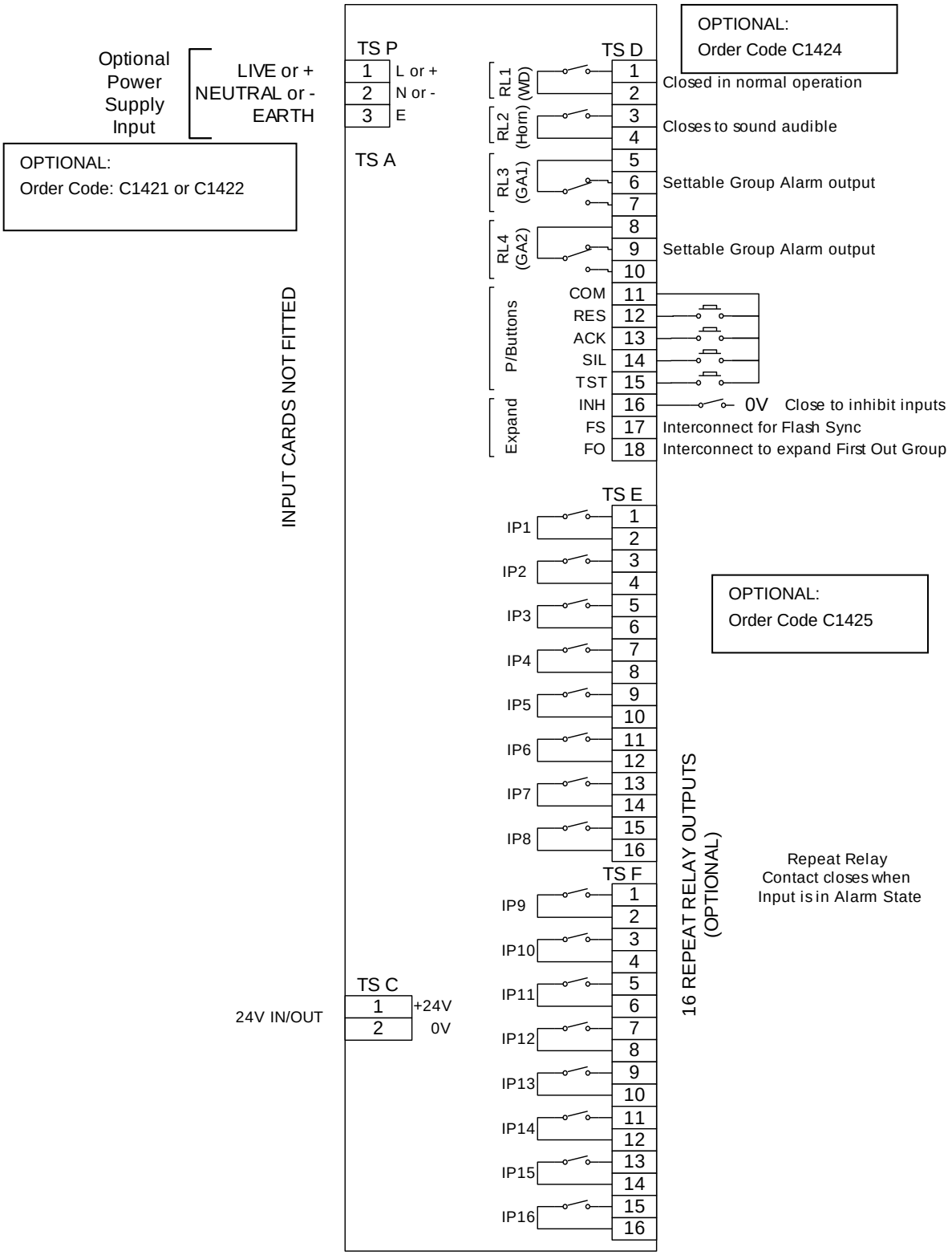
ELECTRICAL CONNECTION



MECHANICAL CONFIGURATION (INCLUDING WINDOW LAYOUT)



ELECTRICAL CONNECTION DIAGRAM



NOTE: Facilities provided on Terminal Strips TS-P, TS-D and TS-F require options to be ordered in addition to the standard serial display unit.