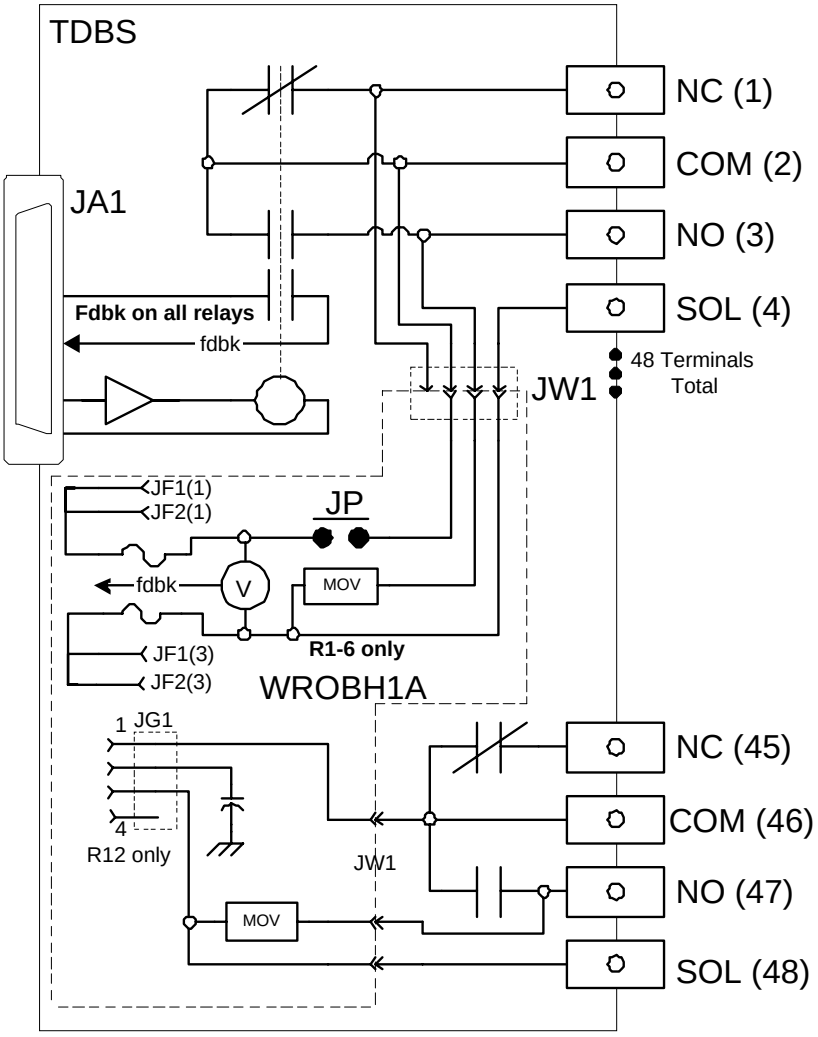
TDBS +WROB

Option board IS200WROBH1A adds capability to TDBS to yield a combination that has the same relay circuit functionality as an IS200TRLYH1B terminal board when used simplex. Included are fused sensed power distribution to the first six relays and dedicated power to the last relay. Electrically IS200TDBS plus IS200WROBH1 has the following circuit. IS200WROBH1 has default fuse values of 3.15 A. Connector JW2 and its connections to JA1 are omitted for clarity.



Both sides of the power distribution on relays 1-6 are fused allowing the board to be used in systems where dc power is floating with respect to earth. Fuse voltage feedback is compatible with 24 V, 48 V, and 125 V dc applications as well as 120 V and 240 V ac applications.

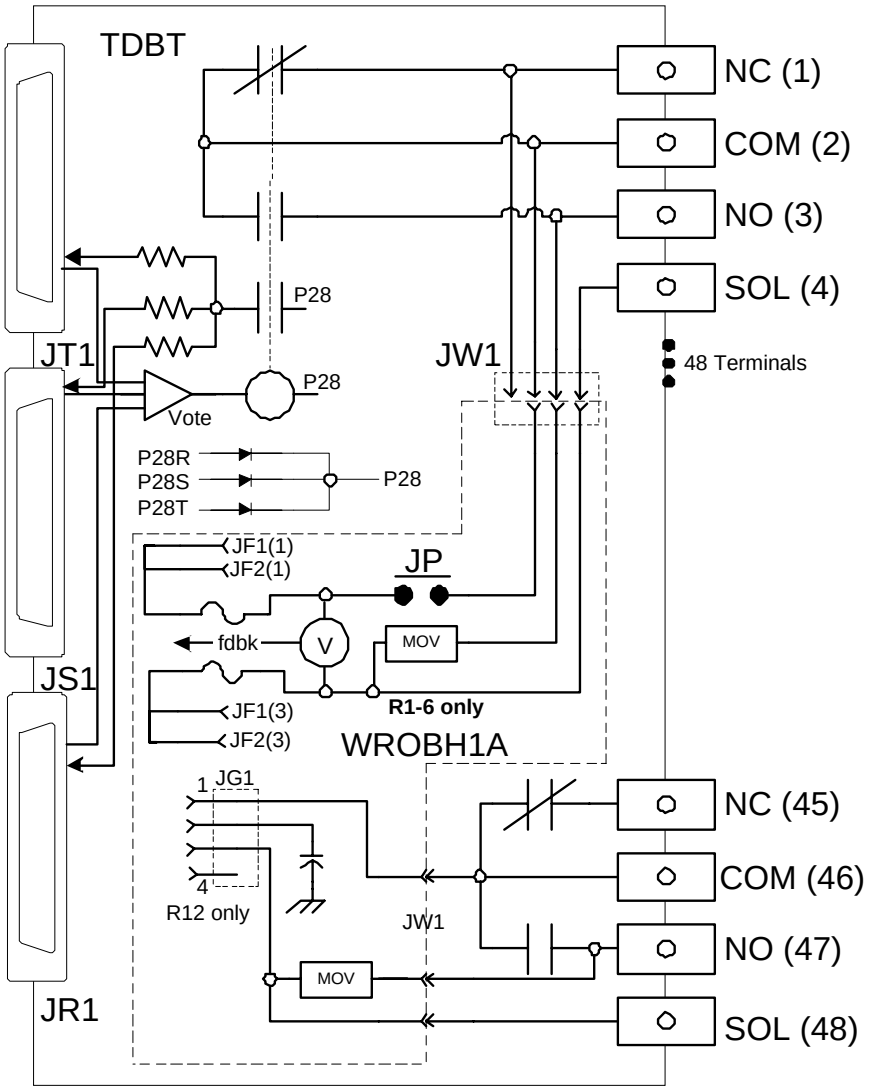
The following table lists the relationship between fuses, jumpers, relays, and terminals.

Relay	+Fuse	-Fuse	Jumper	Terminals
1	FU7	FU1	JP1	1-4
2	FU8	FU2	JP2	5-8
3	FU9	FU3	JP3	9-12
4	FU10	FU4	JP4	13-16
5	FU11	FU5	JP5	17-20
6	FU12	FU6	JP6	21-24

Without an option board, the SOL terminal associated with each relay has no connection. TDBT is designed to support a current rating of 5 A and voltage clearance greater than is needed for 250 V ac on all customer screw and JW1 circuits. The relay contact rating is the limiting item for each application.

TDBT +WROB

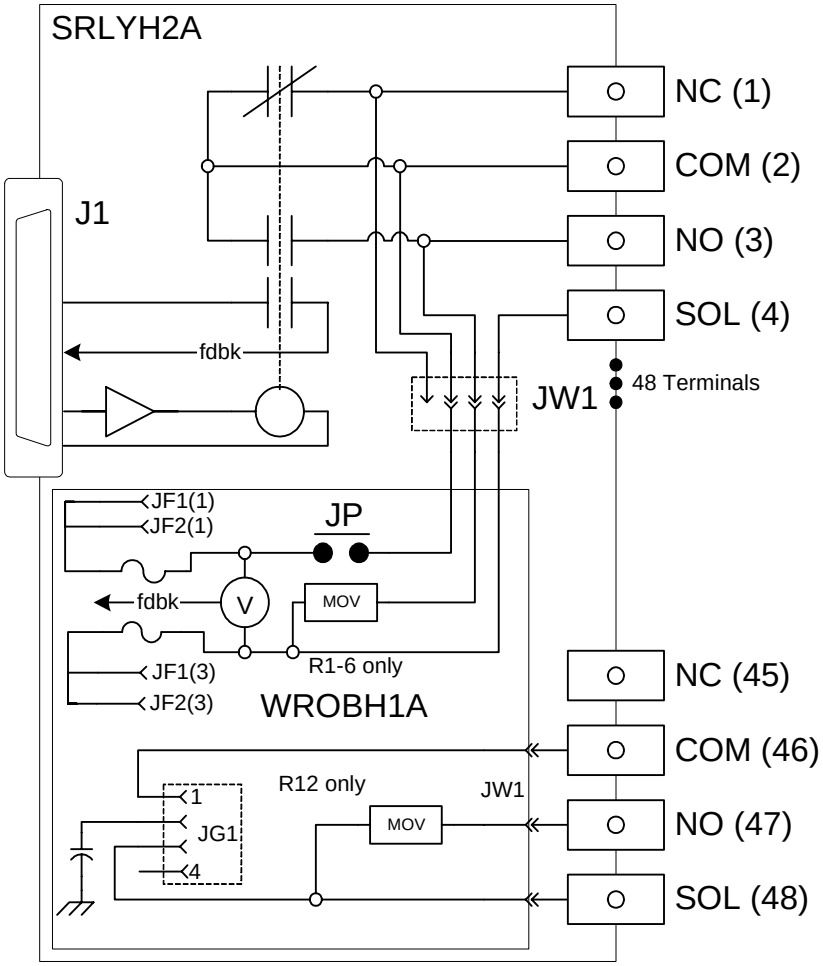
Option board IS200WROBH1A adds capability to TDBT to yield a combination that has the same relay circuit functionality as an IS200TRLYH1B terminal board when used in a TMR system. Included are fused sensed power distribution to the first six relay contacts and dedicated power to the last relay contact. Electrically IS200TDBT plus IS200WROBH1 has the following circuit. IS200WROBH1 has default fuse values of 3.15 A. Connector JW2 and its connections to J1 are omitted for clarity.



Both sides of the power distribution on relays 1-6 are fused allowing the board to be used in systems where dc power is floating with respect to earth. Fuse voltage feedback is compatible with 24 V, 48 V, and 125 V dc applications as well as 120 V and 240 V ac applications.

SRLY + WROB

Option board IS200WROBH1A adds capability to SRLYH2 to yield a combination that has the same functionality as an IS200TRLYH1B terminal board when used simplex. Included are fused sensed power distribution to the first six relays and dedicated power to the last relay. Electrically IS200SRLYH2 plus IS200WROBH1 has the following circuit. IS200WROBH1 has default fuse values of 3.15 A. Connector JW2 and its connections to J1 are omitted for clarity.



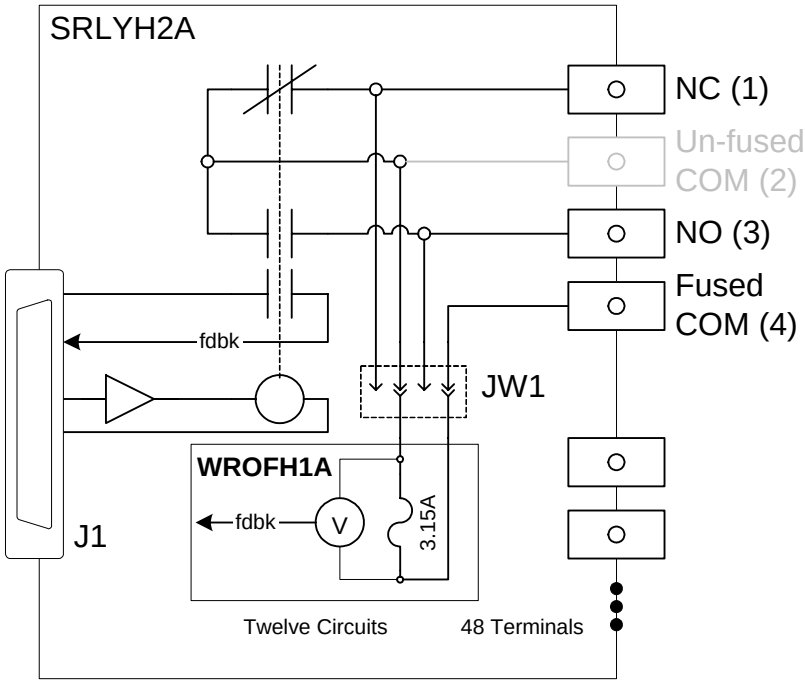
Both sides of the power distribution on relays 1-6 are fused allowing the board to be used in systems where dc power is floating with respect to earth. Fuse voltage feedback is compatible with 24 V, 48 V, and 125 V dc applications as well as 120 V and 240 V ac applications.

The following table lists the relationship between fuses, jumpers, relays, and terminals.

Relay	+Fuse	-Fuse	Jumper	Terminals
1	FU7	FU1	JP1	1-4
2	FU8	FU2	JP2	5-8
3	FU9	FU3	JP3	9-12
4	FU10	FU4	JP4	13-16
5	FU11	FU5	JP5	17-20
6	FU12	FU6	JP6	21-24

SRLY + WROF

Option board IS200WROFH1A adds an optional fuse in series with the COM connection for each relay by using the SOL terminal in place of COM. Isolated voltage sensing that is not polarity sensitive is provided for each fuse. Fuse voltage feedback is compatible with 24 V, 48 V, and 125 V dc applications as well as 120 V and 240 V ac applications. IS200WROFH1 has default fuse values of 3.15 A. Electrically IS200SRLYH2 plus IS200WROFH1 has the following circuit. Connector JW2 and its connections to J1 are omitted for clarity.

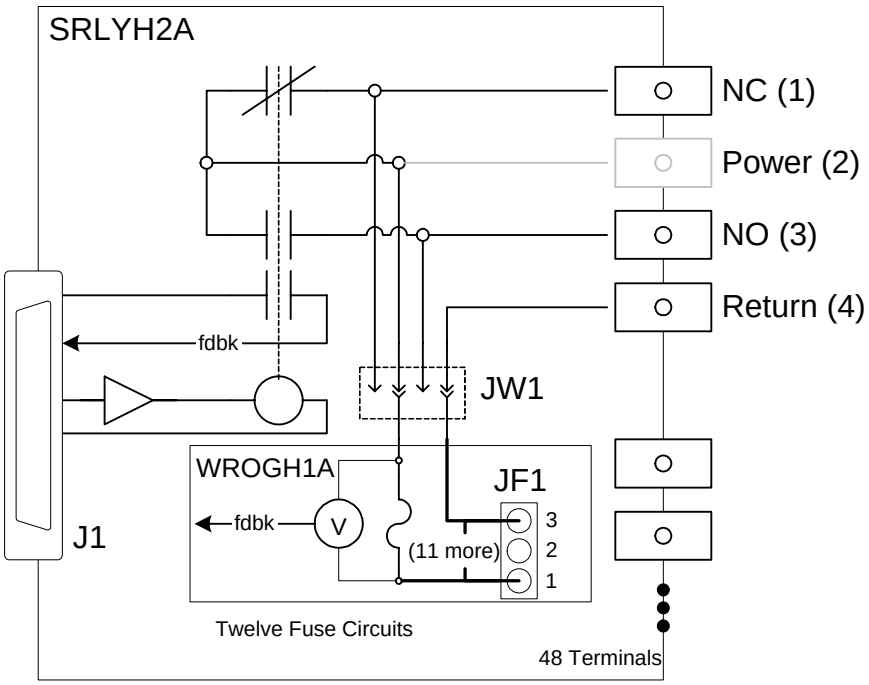


The normal application for this board is when it is desired that each relay have a fuse in series and power applied from an external source. The board has a second potential application. If the fuse is removed from a circuit, the isolated voltage detector remains. The fourth terminal (called Fused COM above) may now be wired to either the NC or NO terminal to provide isolated contact voltage feedback. PDOA I/O pack firmware has a configuration option to turn off fuse blown alarm generation for a given relay if it is being used in this fashion. The terminal table identifies this application as making the fourth screw Vsense.

Fuses FU1 through FU12 are associated with relay circuits 1 through 12 respectively.

SRLY + WROG

Option board IS200WROGH1A adds fused power distribution for all twelve relays. Isolated voltage sensing that is not polarity sensitive is provided for each fuse. Fuse voltage feedback is compatible with 24 V, 48 V, and 125 V dc applications, as well as 120 V and 240 V ac applications. IS200WROGH1 has default fuse values of 3.15 A. Electrically IS200SRLYH2 plus IS200WROGH1 has the following circuit. Connector JW2 and its connections to J1 are omitted for clarity.



Fuses FU1 through FU12 are associated with relay circuits 1 through 12 respectively.

Specification

Item	Specification	
Number of relay channels on one SRLY board	12:	
Rated voltage on relays	a:	Nominal 24 V dc, 48 V dc, or 125 V dc
	b:	Nominal 120 V ac or 240 V ac
Max load current	a:	0.4 A for 125 V dc operation
	b:	1.2 A for 48 V dc operation
	c:	3.15 A for 24 V dc operation
	d:	3.15 A for 120/240 V ac, 50/60 Hz operation
Max response time on	25 ms typical	
Max response time off	25 ms typical	
Contact material	Silver cad-oxide	
Contact life	Electrical operations:	100,000
	Mechanical operations:	10,000,000
Fault detection	Relay position feedback using contact pair separate from load contacts.	
WROBH1 Option Board		
Powered Output Circuits	6 fused, associated with relays 1-6, fed from parallel connectors JF1 and JF2. Both sides of the power source are fused for each output.	
	1 unfused, associated with relay 12, fed from connector JG1	

Item	Specification
WROFH1 Option Board	
Fused Output Circuits	12 fused circuits, one per relay.
WROGH1 Option Board	
Powered Output Circuits	12 fused circuits, one associated with each relay. Single side fusing of the power is associated with the power input on JF1 pin 1. Return power path through JF1pin 3 is not fused.
Physical	
Size	15.9 cm high x 17.8 cm wide (6.25 in. x 7.0 in.)
Technology	Surface-mount.
Temperature	Operating -30 to 65ºC (-22 to +149 ºF)
Humidity	Operating humidity is 5 to 95% non-condensing
Cooling	Free air convection

Diagnostics

Terminal board connectors have their own ID device that is interrogated by the I/O pack. The ID device is a read-only chip coded with the terminal board serial number, board type, revision number, and plug location. When the chip is read by PDOA and a mismatch is encountered, a hardware incompatibility fault is created. Each of the option boards also contains an ID device that uniquely identifies the board.

The SRLY provides diagnostic feedback to PDOA indicating each relay position by monitoring an isolated set of contacts on each relay. When WROB is used with SRLY isolated voltage feedback is used to detect fuse status for the six fuse pairs on the board. When WROF is used with SRLY isolated voltage feedback is used to monitor each fuse. If voltage is present and the fuse is open a diagnostic is generated. The diagnostic may be disabled in PDOA configuration should it be desired to use the feedback circuit with the fuse removed. When WROG is used with SRLY isolated voltage feedback is used to monitor each fuse. If voltage is present and the fuse is open a diagnostic is generated.

Configuration

There are no jumpers associated with the SRLY terminal board.

Option board WROBH1 includes six jumpers that are used to apply or remove power from a relay. Boards are produced with all six jumpers in place. The jumper is removed from the board when a relay is to be used as dry contacts and power distribution is not desired.

There are no jumpers associated with the WROFH1 board. For each relay the inclusion or exclusion of a series fuse is determined by the terminal point used as the relay common. In addition for each relay the associated WROF fuse may be removed to allow direct use of the fuse voltage sensing circuit as a voltage detector.

There are no jumpers associated with the WROGH1 board. For each relay the corresponding fuse may be removed if the relay is to be used to provide dry contacts.