TSB50D, TSB152D

Overload Protection for D.C. Motors

ACTUAL LOAD METER

Actual current of the motor is indicated in percentages, which makes it easy to set "LOAD CURRENT," regardless of the value of the actual current load.

LOAD CURRENT

This presets the load current at the optimum setting in the range from 30% to 130% of the motor's current. When the actual load current exceeds the preset current for the preset SHOCK TIME, the SHOCK RELAY trips to break the motor circuit.

START TIME

When starting a motor, the starting current value is greater than the running current. This starting current value continues until the motor reaches normal speed. During this starting period, the time of which mainly depends on the type of load, the function of detecting the overload current is disabled. Adjustable range is from 0.2 to 20 seconds.

POWER INDICATOR

Indicates that the power supply is on.

TRIP INDICATOR

Lamp comes on when SHOCK RELAY trips.

TEST BUTTON

This switch is used to verify SHOCK RELAY operation.

RESET BUTTON (manual)

Reset can be done quickly whenever a cycle restart is desired.

SHOCK TIME

This presets the overload period. Range is variable from 0.2 to 3 seconds. Every momentary load over the preset current with a shorter period than the preset is ignored. When the overload equals the preset period, the SHOCK RELAY will trip immediately to break the power supply to the motor.

CURRENT FLOW INDICATOR

This lamp lights when the load current flows into the SHOCK RELAY. This is after the fixed 3-second start time.

LOAD CURRENT ADJUSTMENT

Adjustable range is from 50% to 130%.

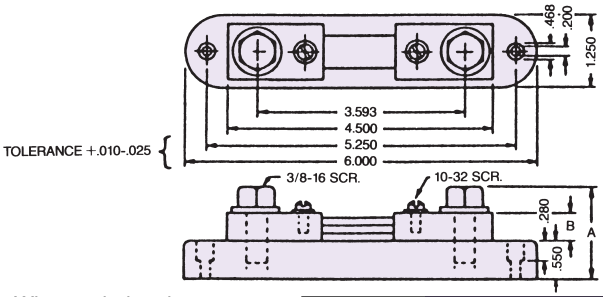
SHOCK TIME

Adjustable range is from 0.3 to 3 seconds.

Note: TSB50D automatically resets when the motor power is disconnected. If manual reset is required, it is possible by installing a separate reset button.

SHUNT SELECTION

The D.C. Motor Shock Relay has basically the same functions and dimensions as the standard TSB152 and TSB50. Differences exist in that a shunt is required to monitor direct current of the D.C. motor in place of using a current transformer.

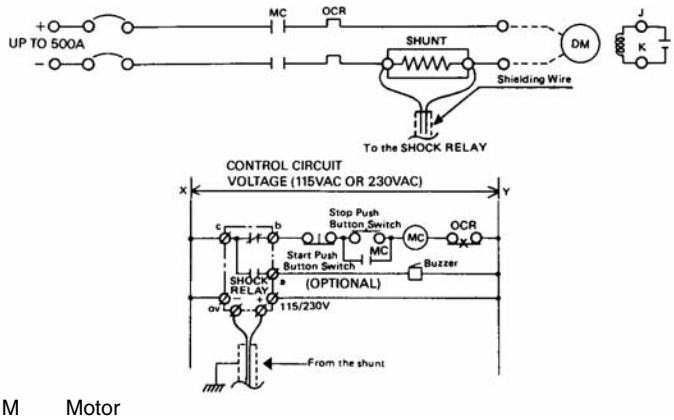


When ordering the TSB152D or TSB50D, select the correct shunt from the chart. The shunt selected should closely match the motor's armature amperage. U.S. Tsubaki will include the shunt you select with the Shock Relay.

CATALOG NUMBER	AMP	A	B
Shunt 1-50	1	1.38	.500
Shunt 2-50	2	1.38	.500
Shunt 5-50	5	1.38	.500
Shunt 10-50	10	1.38	.500
Shunt 20-50	20	1.38	.500
Shunt 50-50	50	1.38	.500
Shunt 100-50	100	1.38	.500
Shunt 150-50	150	1.38	.500
Shunt 200-50	200	1.38	.500
Shunt 250-50	250	1.63	.750
Shunt 300-50	300	1.63	.750
Shunt 400-50	400	1.63	.750
Shunt 500-50	500	1.63	.750

TYPICAL CONNECTING DIAGRAM

TSB152D SHOWN



M Motor
MC Electromagnetic Contactor
TH Thermal Overload Relay
CB Circuit Breaker

Note: Refer to Specifications on page D-16.