

# U.S. TSUBAKI SHOCK RELAY

## SPECIFICATIONS

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FEATURES	TSB151	TSB152
Motor Amps	0.25 - 16 amps	17 - 400 amps
Load Current Range	30 - 130%	30 - 130%
Start Time Setting Range	0.2 - 20 sec.	0.2 - 20 sec.
Shock Time Setting Range	0.2 - 3 sec.	0.2 - 3 sec.
Input Voltage for Operation	115/230 Volt 50/60 Hz	115/230 Volt 50/60 Hz
Allow. Input Voltage Fluctuation	10%	10%
Input Current from C.T. Secondary	5mA	5A
Meter Fine Tuning Adjustment	Yes	Yes
Output Contact	Transfer Contact 250VAC 0.2A at inductive load*	Transfer Contact 250VAC 0.2A at inductive load*
Test Button	Yes	Yes
Withstanding Voltage	1500VAC @ 60Hz for 1 min. between terminal and enclosure	1500VAC @ 60Hz for 1 min. between terminal and enclosure
Surface Color	Munsell 7.5BG4/1.5	Munsell 2.5Y/2
Weight	2.2 lbs.	2.6 lbs.
Power Consumption	1.2VA	1.2VA
Operating Temperature Range	14°F - 122°F	14°F - 122°F
Operating Humidity	85% R.H. or less	85% R.H. or less
Max. Elevation	1,000m	1,000m
Atmosphere	Free of corrosive gas and dust	Free of corrosive gas and dust

### SPECIFICATIONS\*

FEATURES	TSBSS	TSBSA
Motor Amps	Refer to page D-10	Refer to page D-10
Load Current Range	10 - 130%	10 - 130%
Start Time Setting Range	0.2 ~ 30 sec.	0.2 - 30 sec.
Shock Time Setting Range	0.2 ~ 10 sec.	0.2 - 10 sec.
Input Voltage for Operation	90 ~ 250 VAC	90 ~ 250 VAC
Allow. Input Voltage Fluctuation	10%	10%
Input Current from C.T. Secondary	NA	NA
Meter Fine Tuning Adjustment	NA	NA
Output Contact	3A/250 VAC, Resistive	3A/250 VAC, Resistive
Test Button	Yes	Yes
Withstanding Voltage	2000VAC, 5mA @ 60Hz for 1 min. between terminal and enclosure	2000VAC, 5mA @ 60Hz for 1 min. between terminal and enclosure
Surface Color	NA	NA
Weight	0.35 lbs.	0.35 lbs.
Power Consumption	2.7VA	2.7VA
Operating Temperature Range	-4°F - 158°F	-4°F - 158°F
Operating Humidity	45 - 85% R.H.	45 - 85% R.H.
Max. Elevation	2,000m	2,000m
Atmosphere	Free of corrosive gas and dust	Free of corrosive gas and dust

### SPECIFICATIONS\*

FEATURES	TSB151A	TSB152A
Motor Amps	0.25 - 16 amps	17 - 400 amps
Load Current Range	30 - 130%	30 - 130%
Alarm Load Current Range	30 - 130%	30 - 130%
Start Time Setting Range	0.2 - 20 sec.	0.2 - 20 sec.
Shock Time Setting Range	0.2 - 3 sec.	0.2 - 3 sec.
Input Voltage for Operation	115 Volt 50/60 Hz	115 Volt 50/60 Hz
Allow. Input Voltage Fluctuation	10%	10%
Input Current from C.T. Secondary	5mA	5A
Meter Fine Tuning Adjustment	Yes	Yes
Output Contact	Transfer Contact 250VAC 0.2A at inductive load*	Transfer Contact 250VAC 0.2A at inductive load*
Test Button	Yes	Yes
Withstanding Voltage	1500VAC @ 60Hz for 1 min. between terminal and enclosure	1500VAC @ 60Hz for 1 min. between terminal and enclosure
Surface Color	Munsell 7.5BG4/1.5	Munsell 2.5Y/2
Weight	2.2 lbs.	2.6 lbs.
Power Consumption	1.2VA	1.2VA
Operating Temperature Range	14°F - 122°F	14°F - 122°F
Operating Humidity	85% R.H. or less	85% R.H. or less
Max. Elevation	1,000m	1,000m
Atmosphere	Free of corrosive gas and dust	Free of corrosive gas and dust

\*CAUTION: If the starter coil in the magnetic contactor (MC) of the monitored motor exceeds the Shock Relay output contact's capacity, an auxiliary relay must be installed to prevent damage to the Shock Relay. The instruction manual included with each Shock Relay details how to add this auxiliary relay if required.

## SPECIFICATIONS

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FEATURES	TSB151M	TSB152M
Motor Amps	0.25 - 16 amps	17 - 400 amps
Load Current Range	30 - 130%	30 - 130%
Impact Load Current Range	30 - 300%	30 - 300%
Start Time Setting Range	0.2 - 20 sec.	0.2 - 20 sec.
Shock Time Setting Range	0.2 - 3 sec.	0.2 - 3 sec.
Impact Shock Time Setting	0.05 sec. (fixed)	0.05 sec. (fixed)
Input Voltage for Operation	115/230 Volt 50/60 Hz	115/230 Volt 50/60 Hz
Allow. Input Voltage Fluctuation	10%	10%
Input Current from C.T. Secondary	5mA	5A
Meter Fine Tuning Adjustment	Yes	Yes
Output Contact	Transfer Contact 250VAC 0.2A at inductive load*	Transfer Contact 250VAC 0.2A at inductive load*
Test Button	Yes	Yes
Withstanding Voltage	1500VAC @ 60Hz for 1 min. between terminal and enclosure	1500VAC @ 60Hz for 1 min. between terminal and enclosure
Surface Color	Munsell 7.5BG4/1.5	Munsell 2.5Y7/2
Weight	2.2 lbs.	2.6 lbs.
Power Consumption	1.2VA	1.2VA
Operating Temperature Range	14°F - 122°F	14°F - 122°F
Operating Humidity	85% R.H. or less	85% R.H. or less
Max. Elevation	1,000m	1,000m
Atmosphere	Free of corrosive gas and dust	Free of corrosive gas and dust

### SPECIFICATIONS\*

FEATURES	TSB151W	TSB152W
Motor Amps	0.25 - 16 amps	17 - 400 amps
Overload Current Range	30 - 130%	30 - 130%
Underload Current Range	30 - 130%	30 - 130%
Start Time Setting Range	0.2 - 20 sec.	0.2 - 20 sec.
Shock Time Setting Range	0.2 - 3 sec.	0.2 - 3 sec.
Input Voltage for Operation	115/230 Volt 50/60 Hz	115/230 Volt 50/60 Hz
Allow. Input Voltage Fluctuation	10%	10%
Input Current from C.T. Secondary	5mA	5A
Meter Fine Tuning Adjustment	Yes	Yes
Output Contact	Transfer Contact 250VAC 0.2A at inductive load*	Transfer Contact 250VAC 0.2A at inductive load*
Test Button	Yes	Yes
Withstanding Voltage	1500VAC @ 60Hz for 1 min. between terminal and enclosure	1500VAC @ 60Hz for 1 min. between terminal and enclosure
Surface Color	Munsell 7.5BG4/1.5	Munsell 2.5Y7/2
Weight	2.2 lbs.	2.6 lbs.
Power Consumption	1.2VA	1.2VA
Operating Temperature Range	14°F - 122°F	14°F - 122°F
Operating Humidity	85% R.H. or less	85% R.H. or less
Max. Elevation	1,000m	1,000m
Atmosphere	Free of corrosive gas and dust	Free of corrosive gas and dust

### SPECIFICATIONS\*

FEATURES	TSB152D	TSB50D
Motor Amps	Up to 500A	Up to 500A
Load Current Range	30 - 130%	50 - 130%
Start Time Setting Range	0.2 - 20 sec.	3 sec. (fixed)
Shock Time Setting Range	0.2 - 3 sec.	0.3 - 3 sec.
Input Voltage for Operation	115/230 Volt 50/60 Hz	115/230 Volt 50/60 Hz
Allow. Input Voltage Fluctuation	10%	10%
Input Current from C.T. Secondary	50mV	50mV or 100mV
Meter Fine Tuning Adjustment	Yes	No
Output Contact	Transfer Contact 250VAC 0.2A at inductive load*	Transfer Contact 250VAC 0.1A at inductive load*
Test Button	Yes	No
Withstanding Voltage	1500VAC @ 60Hz for 1 min. between terminal and enclosure	1500VAC @ 60Hz for 1 min. between terminal and enclosure
Surface Color	Munsell 10GY8/4	Munsell N-2.0
Weight	2.2 lbs.	0.7 lbs.
Power Consumption	1.2VA	0.6VA
Operating Temperature Range	14°F - 122°F	14°F - 122°F
Operating Humidity	85% R.H. or less	85% R.H. or less
Max. Elevation	1,000m	1,000m
Atmosphere	Free of corrosive gas and dust	Free of corrosive gas and dust

\*CAUTION: If the starter coil in the magnetic contactor (MC) of the monitored motor exceeds the Shock Relay output contact's capacity, an auxiliary relay must be installed to prevent damage to the Shock Relay. The instruction manual included with each Shock Relay details how to add this auxiliary relay if required.