Mechanical Products Company

SERIES 53

RAISING THE BAR
MP - COUNT ON IT

BRANCH DISCONNECT CIRCUIT BREAKER

MADE IN THE USA

Disconnect & Protect to 42VDC

SAE & ABYC Compliant

Tested to UL1077, UL1107, UL1500

Ignition-Protected

Harsh Environments

Patent No.: US 11,837,426

IP66

IBEX 2020 INNOVATION AWARDS HONORABLE MENTION

SUPERIOR CIRCUIT PROTECTION

www.mechprod.com

Series 53 Overview

The Series 53 Branch Disconnect / Circuit Breaker incorporates into a single device both traditional battery disconnect switching (non-engine) and circuit protection. This unique combination of features in a single rotary switch allows OEM cost savings by eliminating the added components, material and labor of a separate battery switch and circuit breaker/ fuse. For the end user or maintenance personnel, the Series 53 provides a quick means to disconnect traditional downstream circuit(s) while preventing unintentional battery drain or allowing for disconnected battery power during storage and/or maintenance.

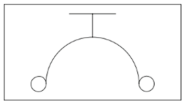
- Made in the USA
- Combined UL1107 & UL1077
- Ignition Protected
- IP66
- CE Marked
- Patent No.: US 11,837,426

Series 53 Specifications

This product is not rated for an engine starter circuit

Standard Amp Ratings	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, and 70 Amp (Contact factory for additional amp ratings)
Maximum Voltage Ratings	42VDC
Min / Max Ultimate Trip	Must Hold 100% of rated current at 25°C/77°F Must Trip at 135% of rated current within 1 hour. Unique / specific higher ambient calibrations are available, consult factory
Operating Temperature Range	-40°C (-40°F) to 85°C (185°F)
Dielectric Strength	2000VAC minimum, UL1107*
Interrupt Capacity	1.5kA/U3 @ 28VDC per ABYC (SAE J553 & UL1077*) 3kA/U3 @ 14VDC per ABYC (SAE J553 & UL1077*)
Endurance (Overload)	Per SAE J553 [100 overload trip cycles at 400% of rated current at 28VDC] OL1 @ 14VDC (UL1077*) OL0 @ 28VDC (UL1077*)
Endurance (Switching)	10-25A: 5000 switching cycles, 30-45A: 4000 switching cycles, 50-70A: 3000 switching cycles, - at 100% of rated load, 28VDC, per requirements of UL1107 10-70A: 6000 cycles @ 100% rated load, 14VDC (UL 1077*) 10-70A: 20,000 switching cycles at 14VDC / 10A continuous - Consult factory if additional information or other switching performance levels required.
Effective Current Limit	Per SAE J553
Weight	90 gm
	Environmental
Ignition Protected	Tested to the requirements of ISO 8846, USCG, ABYC, UL1107, UL1500 and SAE J1171
Ingress Protection	IP66
Corrosion	Conforms to MIL-STD-202, Method 101, Test Condition A (96 hrs)
Humidity	Conforms to MIL-STD-202, Method 106 (240 hrs)
Shock	Tested to the requirements of UL1107* at 100% rated current
Vibration (sine)	Tested to the requirements of UL1107* at 100% rated current
Vibration (Random)	MIL-STD-202, Method 214, Test Condition I, Letter D (12G), per SAE J1455 at 100%
Regulatory Compliance Summary	Interrupt Capacity: SAE J553, ABYC E-11, UL1077* Ignition Protection: ISO 8846*, USCG, ABYC, UL1500* and SAE J1171 Endurance: SAE J553, UL1107* Dielectric Strength: UL1077*, UL1107* Shock, Vibration, Corrosion, Humidity: MIL-STD-202, UL1077*, UL1107* Ingress Protection: IEC 60529 EU Approvals: CE **tested per methods of standard*

Switch ON, Continuity – Breaker is active and circuit is active.
Switch ON, NO Continuity – Breaker is tripped. Push the PUSH TO RESET button to reset breaker.
Switch OFF, NO Continuity – Breaker out of circuit. Circuit is Off.



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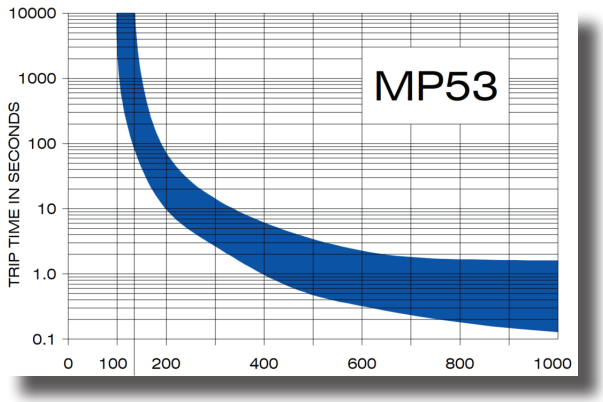
Series 53 Trip Curve



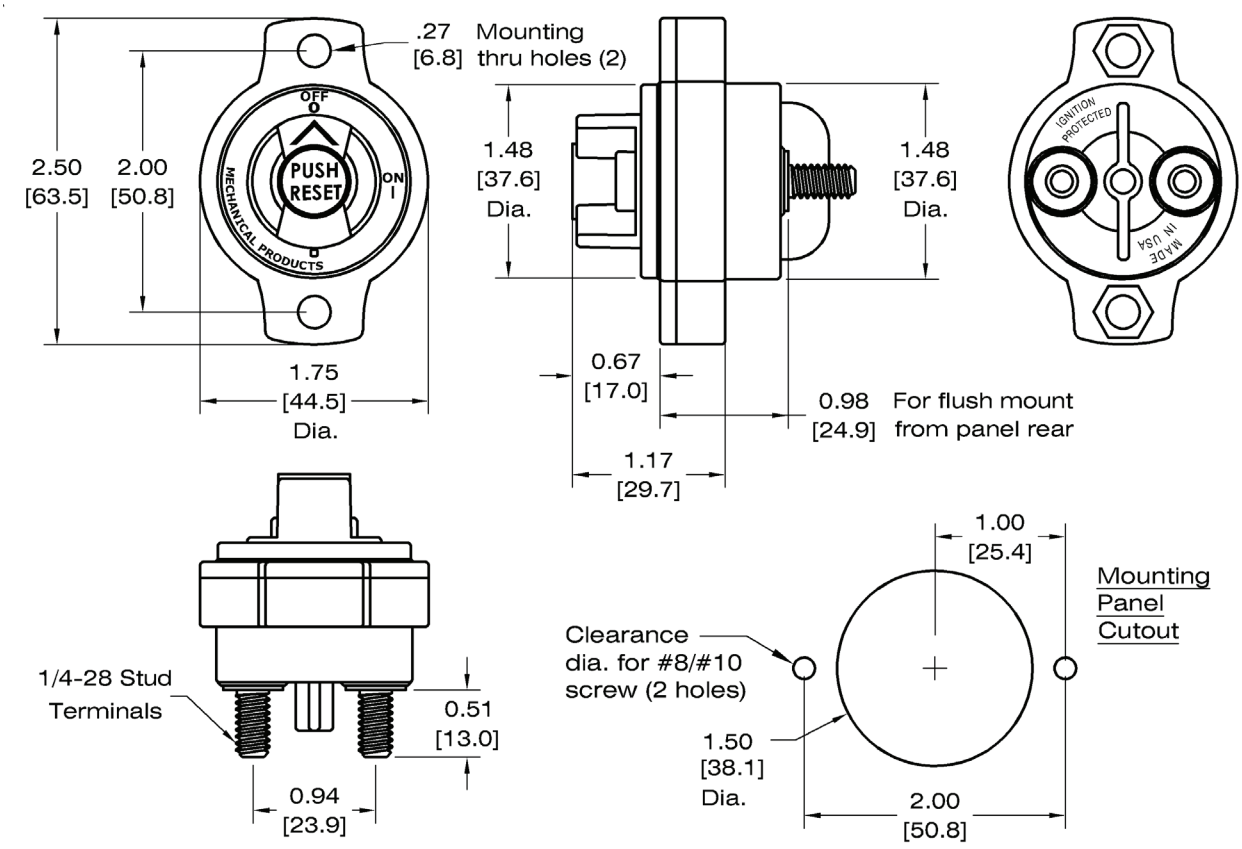
Typical Overload Trip Time Data (in seconds)

Current Rating	200%	400%	600%	800 %	1000%
10-70 Amps	10-80	1-6	0.35-2	0.18-1.4	0.15-1.3

Typical Ambient Temperature Correction Factor

Current Rating	°F	-65	0	32	77	100	140
	°C	-54	-17	0	25	38	60
10-70 Amps		.83	.87	.93	1.00	1.11	1.25

Series 53 Physical Configuration



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Series 53 Part Numbering Guide up to 70A

P/N: 5 3 3 - P 0 - □ □ □ - □ □

Series Number
53 = Series
Battery Disconnect / Circuit Breaker

Type
3 = Type III Push to Reset

Mounting Options / Configurations
P0 = Standard Panel Mount
with 1/4"-28 Stud Terminals

Amp Rating
010 = 10A
015 = 15A
020 = 20A
025 = 25A
030 = 30A
035 = 35A
040 = 40A
045 = 45A
050 = 50A
060 = 60A
070 = 70A

Terminal Hardware
0 = No terminal hardware
1 = Stainless steel sems nuts (Bulk)
2 = Stainless steel sems nuts (Installed)

Mounting Hardware
0 = #10 Eyelet No mounting hardware
1 = Mounting nut, no screws*
2 = Mounting nut, #8-32 screws (Bulk)*
*Mounting nut cannot be used with standoffs

Standoff Part Number **For use with #10 eyelet only.	Description
530-320-1	Without Inserts
530-320-2	With Inserts

Branch circuit protection in industrial/commercial vehicles:

- Agricultural
- Construction
- Marine
- Trucks
- Buses
- Emergency Vehicles
- Automotive Lifts
- Battery Chargers
- Recreational Vehicles

Protect:

- Wiring
- Lighting
- Components
- Batteries
- Motors
- Pumps
- Alternators
- Air Compressors
- Inverters
- Converters
- Generators
- and more

For 3D CAD:
www.mechprod.com/3d-models-catalog

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Specifications subject to change

WARNING: Cancer & Reproductive Harm
www.p65warnings.ca.gov/