



circuit breaker 3VA5 UL frame 250 breaking capacity class M 35kA @ 480 V 3-pole, line protection TM230, FTAM, In=175A overload protection Ir=175A fixed short-circuit protection li=5...10 x In cable connection on both sides

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	MFAS
Product version	System protection
design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)	Yes
design of the load switch / according to UL 489 / High-Intensity-Discharge circuit breaker (HID Type)	No
design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type)	No
design of the overcurrent release	TM230
protection function of the overcurrent release	LI
number of poles	3
General technical data	
rated insulation voltage Ui	800 V
Max. rated operational voltage Ue with DC	750 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	35 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	11.7 W
mechanical service life (switching cycles) / typical	20 000
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	8 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	4 000
electrical endurance (switching cycles) / at 480 V	8 000
electrical endurance (switching cycles) / at 600 V	4 000
Neutral conductors / upgradeable/retrofitable	No
ground-fault monitoring version	without
product function	
• communication function	No
• other measurement function	No
Net Weight	2.229 kg
Current	
marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	175 A
• at 45 °C	171 A
• at 50 °C	166 A

• at 55 °C	162 A
• at 60 °C	158 A
• at 65 °C	153 A
• at 70 °C	149 A

Switching capacity according to IEC 60947

switching capacity class of the circuit breaker	M
breaking capacity maximum short-circuit current (I _{cu})	
• at 240 V	85 kA
• at 415 V	55 kA
• at 690 V	7 kA
breaking capacity operating short-circuit current (I _{cs})	
• at 240 V	85 kA
• at 415 V	55 kA
• at 690 V	7 kA
short-circuit current making capacity (I _{cm})	
• at 240 V	187 kA
• at 415 V	121 kA
• at 690 V	11.9 kA
design of short-circuit protection	For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter

Switching capacity according to UL 489

breaking capacity current	
• at 240 V	85 kA
• at 480 V	35 kA
• at 600 V	18 kA

Adjustable parameters

Adjustable response value current / I _g min.	175 A
Adjustable response value current / I _g min.	175 A
Ground fault protection / tripping switchable / I _{2t} =ON/OFF	No

Mechanical Design

height [in]	7.28 in
Height	185 mm
width [in]	4.13 in
Width	105 mm
depth [in]	3.27 in
depth	83 mm

Connections

arrangement of electrical connectors / for main current circuit	Front connection
type of electrical connection / for main current circuit	circular conductor terminal on both sides
Type of connectable conductor cross-section, round conductor terminal, stranded	1 x (6 AWG - 350 kcmil)

Auxiliary circuit

product component	
• undervoltage release	No
• voltage trigger	No
• trip indicator	No
number of CO contacts / for auxiliary contacts	0

Accessories

product extension / optional / motor drive	Yes
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Environmental conditions

protection class IP / on the front	IP40
ambient temperature	
• during operation / minimum	-25 °C
• during operation / maximum	70 °C
• during storage / minimum	-40 °C
• during storage / maximum	80 °C

Certificates

reference code / according to IEC 81346-2	Q
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last modified:

7/15/2022

