

Short-Circuit Current Ratings



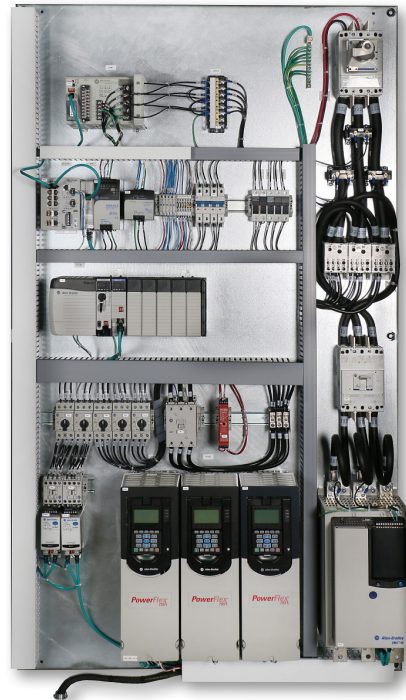
Coordinated High Fault Short Circuit Solutions

Features and Benefits

- Coordinated high-fault global short-circuit current ratings for fused disconnects, circuit breakers, motor starters, soft starters and component drives
- One-line "Bills-of-Material" provide coordinated high fault short-circuit current ratings for all power devices used in the circuit
- Tables available for all common global application voltages, 220...690V, 50 Hz or 60 Hz
- Selection tables available for several application parameters
- Coordinated testing conducted in Rockwell Automation® accredited test facilities in compliance to IEC and UL standards
 - witnessed by Underwriters Laboratories

Select the right components in the right combination with the free SCCR web tool.

<http://www.rockwellautomation.com/global/support/global-sccr.page?>



Overview

What is short-circuit current rating (SCCR)? The maximum available short-circuit current an electrical component can sustain without the occurrence of excessive damage when protected with an overcurrent protective device.

Determining the SCCR of a complete industrial control panel or control switchgear can be challenging, especially if proper considerations are not made during the initial stages of the component selection process.

The Rockwell Automation Global SCCR Selection Tool provides coordinated high fault short-circuit solutions for fused-disconnects, circuit breakers, motor starters, soft starters and component drives. The one-line "Bills-of-Material" provides coordinated high fault SCCR ratings for all power devices used in the circuit, saving customers time and effort to find and determine these ratings.

LISTEN.
THINK.
SOLVE.®







Global SCCR Selection Tool

How to Use

The online global SCCR selection tool from Rockwell Automation is optimized for both computer and mobile device use.

Ratings are critical for:

- Component protection
- Customer applications
- Circuit components, assemblies and system installations
- Productivity and downtime

IEC Motor Control <i>Motor starter combinations with fuse or circuit breaker protection, covering direct-on-line, reversing, star-delta and non-motor load applications.</i>	
Low Voltage AC Drives <i>PowerFlex® Drive circuits can be configured for a wide variation of options including circuit breakers or fuse protection, isolation contactors, bypass starters and line conditioning components.</i>	
Soft Starters <i>SMC™ Soft Starters are a compact, simple to use, solid-state motor controller designed to operate 3-phase motors.</i>	
Servo Drives <i>Kinetix® Servo Drive circuits can be protected with circuit breakers or fuses in combination with isolation contactors when required.</i>	
Busbar Mounting Systems <i>The Busbar Mounting System provides high fault SCCR values when the feeder circuit is protected with fuses or circuit breakers. The SCCR ratings cover bus bars, supports, supply modules, mounting modules and other commonly used accessories.</i>	
Power Distribution & Terminal Blocks <i>UL 508 High Fault Short-Circuit Current Ratings for Power Distribution Blocks and Terminal Blocks when protected by IEC Fuses, UL Fuses.</i>	

Product Category

Select from multiple product categories

Global Short Circuit Current Ratings

Welcome to the Global Short Circuit Current Ratings Selection Tool, providing coordinated high fault branch circuit solutions.

Product Category

Your Selection

IEC Motor Control

Product Family



Application Parameters

Once the product category has been selected, application parameters are available specific to that category including:

- Starter/Drive Type
- Overload Relay
- Voltage
- Line or Delta
- Normal or Heavy Duty
- Control Power
- Circuit Protection
- SCCR Level



Global Short Circuit Current Ratings

Available Documents

SCCR Table Ref. Number
[SCCR-1020A.pdf](#)

Test Summary Letter Ref. Number(s)
[TS-1020-1A.pdf](#)

Selection Summary

Product Category

Your Selection

IEC Motor Control



Results

Select all application parameters and "Accept" the details to receive SCCR results and Bill of Materials

Global SCCR Selection Tool

Getting Results

All combinations reported in the SCCR tool have been fully tested and supported by a signed 'Test Summary Letter'.

TEST SUMMARY

Type 1 & 2 SC Coordination – 440V, 65kA
100-C30...D860 Contactors, 3 Component Starters with MCPs

Date: February 14, 2014
 Test Summary No.: TS-1026-1M

Purpose of Tests:
 Evaluate SC Performance of Allen-Bradley 140MG Motor Circuit Protectors, 100-C/D Contactors and 193-E Electronic Overload Relays

Test Standard:
 UL 508 Type D Combination Motor Controller
 IEC 60947-4-1 Edition 2.1 2002-12

Test Devices:

Motor Circuit Protectors	Contactors	Electronic OLR
140MG-G8P-C50	100-C30/37	193-EC, EE
140MG-G8P-C10	100-C43	193-EC, EE
140MG-G8P-D12	100-C60/72/85/97	193-EC, EE
140MG-J8P-D25	100-D115/140/180	193-EC, EE
140MG-K8P-D40	100-D210/250/300/420	193-EC, EE
140MG-M8P-D80	100-D630/860	193-EC, EE

Summary of Tests:
 Short-circuit "r" tests: 1 operation with all devices closed, 1 operation with contactor closing into fault
 Dielectric tests at 1,200VAC

Short-circuit Iq tests: 1 operation with all devices closed, 1 operation with contactor closing into fault
 Dielectric tests at 1,200VAC

Test Circuits:

	"r"	Iq
Open Circuit Voltage:	483 Volts, 3-Phase, 60Hz	483 Volts, 3-Phase, 60Hz
Available Symmetrical Current:	3,42kA r.m.s.	65kA r.m.s.
Power Factor:	0.80 lag	<0.80

Component Compatibility Information

Rockwell Automation components have been tested under the most severe fault conditions with our range of motor starters, soft-starters and drives, enabling you to make the most of your automation investment.

Application Details
 Main circuit parameters used during the tests

Motor Ratings
 Easily identify the motor power rating of your application

Breaker or Fuse Type
 Most appropriate protective device in accordance with circuit and motor requirements

Contactor Type
 Catalog number of recommended input or output contactor

Options Available
 Catalog numbers if other devices are required. Graph identifies options.

Coordination Type
 Type of short circuit coordination for full motor and circuit protection according to IEC

Short-circuit Coordination

Starter Type:

S.C. Protective Device:

Contactor:
 Overload Relay:

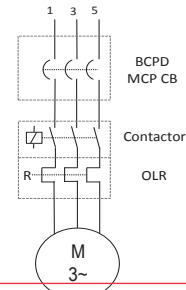
Rated Operational Voltage:

Test Voltage:

Rated Conditional S.C. Current (Iq):

Level of S.C. Coordination:

Direct-on-Line & Reversing - Trip Class 10
 3C Starter: MCP + Contactor + OLR
140MG Motor Circuit Protector (MCP)
UL 489 - Magnetic Only
 100-C, 100-D (100S-C, 100S-D)
 193-E1 Plus, E3 & E3 Plus, E300
440V 50/60Hz
 483V 60Hz
65kA (rms sym.)
 Type "2" (Type "1") per IEC 60947-4
UL 508 Type D Combination Motor Controller (CMC)



Motor		Circuit Breaker		Contactor	Overload Relay	S. C. Coordination			
3 ph	1500 rpm	Catalog Number	Magnetic Setting	Catalog Number	Catalog Number	Thermal Setting	Coordination Type	Test Summary Letter	Remark
[kW]	[A] ¹⁾	(Max)	[A]	²⁾	³⁾	[A]			
0.37	1.0	140MG-H8P-B30	9 - 33	100-C30...	193-EECD	1.0 - 5.0	Type 2	TS-1026-1M	---
0.55	1.4	140MG-H8P-B30	9 - 33	100-C30...	193-EECD	1.0 - 5.0			---
0.75	1.7	140MG-H8P-B30	9 - 33	100-C30...	193-EECD	1.0 - 5.0			---
1.1	2.5	140MG-H8P-B30	9 - 33	100-C30...	193-EECD	1.0 - 5.0			---
1.5	3.3	140MG-H8P-B30	9 - 33	100-C30...	193-EECD	1.0 - 5.0			---
2.2	4.5	140MG-H8P-B70	21 - 77	100-C30...	193-EEED	3.2 - 16			---
3	5.9	140MG-H8P-B70	21 - 77	100-C30...	193-EEED	5.4 - 27			---
4	7.7	140MG-H8P-C15	45 - 165	100-C30...	193-EEED	5.4 - 27			---
5.5	10.5	140MG-H8P-C15	45 - 165	100-C30...	193-EEED	5.4 - 27			---
7.5	14.0	140MG-H8P-C30	90 - 330	100-C30...	193-EEED	5.4 - 27			---
11	20	140MG-H8P-C30	90 - 330	100-C30...	193-EEED	5.4 - 27			---
15	26	140MG-H8P-C50	150 - 550	100-C30...	193-EEED	5.4 - 27			---
18.5	32	140MG-H8P-C50	150 - 550	100-C37...	193-EEFD	9.0 - 45			---
22	37	140MG-H8P-C50	150 - 500	100-C37...	193-EEFD	9.0 - 45			---
30	50	140MG-H8P-D12	625 - 1,250	100-C60...	193-EEGE	18 - 90			---
37	60	140MG-H8P-D12	625 - 1,250	100-C60...	193-EEGE	18 - 90			---
45	73	140MG-H8P-D12	625 - 1,250	100-C85...	193-EEGE	18 - 90	---		
55	88	140MG-H8P-D12	625 - 1,250	100-C97...	193-EEVE	60 - 120	---		

Global SCCR Selection Tool

UL/CSA Standards

Rockwell Automation provides high fault tested UL/CSA listed combinations for branch and feeder circuits. In many applications, our tested combination high fault ratings values will meet or exceed the perspective available fault current for the installation.

Following are the products included in the Global SCCR Tool and their corresponding UL Standard.

UL Standard	UL File Number	Bulletin Number	Name
UL 489	E197878	140G	Molded Case Circuit Breaker
		140MG	Motor Protection Circuit Breakers
		1489	Miniature Circuit Breaker
		1492-MC	Miniature Circuit Breaker
	E119349	140G	Molded Case Circuit Breaker
	E224135	140MG	Motor Protection Circuit Breaker
UL 4248-1 (replaces UL 512)	E 34648	1491, 140F	Fuse Holder
UL 98	E47426	194R	Rotary Disconnect Switch
		1494	Visible Blade Disconnect Switch
UL 508	E205542	140M	Motor Protection Circuit Breakers
	E125316	103, 107, 190, 191	2- and 3- Component Starters
	E54612	140M, 140A	Manual Motor Controllers
		194E	IEC Load Switch (At-motor disconnect)
	E3125	100, 104	Contactors & Starters, IEC
		500, 505, 509	Contactors & Starters, NEMA
	E477760	280/281, 283, 284, 290/291, 294	Armor Start
	E477761		
	E14840	193	Overload Relay, IEC
		592	Overload Relay, NEMA
	E96956	194L	Control & Load Switch
		150	Soft Starter
		156	Solid State Contactors
	E56639	1692	Electronic Circuit Protector
	E143184	141A	Busbar Mounting System
E56639	Busbar Mounting System		
UL 508C	E59272	PowerFlex 4, PowerFlex 4M, PowerFlex 520 Series, PowerFlex 750 Series	AC Drives
UL 1953	E313475	1492-PDME, 1492-PDE	Power Distribution Block
UL 1059	E40735	1492-PD, 1492-PDL	Power Terminal Blocks
		1492-J, 1492-W, 1492R	Screw Type Terminal Block

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