



Understanding UL508A Combination Motor Controller Data

In response to NEC Article 409, NFPA 79, and UL508A requiring all control panels be marked with a Short Circuit Current Rating (SCCR), Schneider Electric has been submitting data to UL for posting onto their UL508A Combination Motor Controller website.

UL created this UL508A category specifically for and is limited to a Combination Motor Controller which is defined on UL's website as the application of individual components that includes a disconnecting means, an overcurrent protective device, motor controller and motor overload protection. There are 5 classifications of combination motor controllers Types A, C, D, E, & F which is defined by the type of branch circuit protective device used in the combination motor controller. Since combination motor controllers are not sold as an open assembly, this category provides industrial control product manufacturers a method to provide motor control circuit solutions with a high SCCR combination rating by extracting previously tested data from their existing enclosed product files. This category does not include individual components since each has its own marked short circuit rating.

The data in the spreadsheets provides guidance for industrial control panel manufacturers who purchase the discrete components (itemized for each combination) and assemble combination motor controllers within their panels to achieve a combination short circuit rating that is higher than the lowest rated individual component. The motor circuit combinations listed in the linked spreadsheets on UL's website may be applied in a manufacturer's Listed industrial control panel without further evaluation or specific documentation in the manufacturer's UL Procedure pages. The spreadsheets cover the application of individual components that form the combination motor controller having specified ratings (voltage, horsepower) for the combination, including a short-circuit current rating (SCCR) for the combination. The specified ratings for the combination motor controller may be applied to the end-product equipment only when all of the specified components listed are provided in the end-product equipment and installed according to any applicable conditions of acceptability such as minimum enclosure volume and conductor size. To maintain the combination short circuit rating, substitution or the deletion of any of the specified components is not permitted.

Therefore, Schneider Electric's UL508A combination motor controller data, listed under the brand name of Square D, provides solutions for achieving a higher SCCR rating through the use of discrete components to assemble a combination motor controller within their panels that is higher than the lowest rated individual discrete component. These combinations can be found on the Square D UL508A website and UL's UL508A Combination Motor Controller website.

Square D and UL website links:

Square D UL508A Website: www.us.squared.com/ul508a (Select fully UL508A tested and approved combination spreadsheets under the *What's New* area)

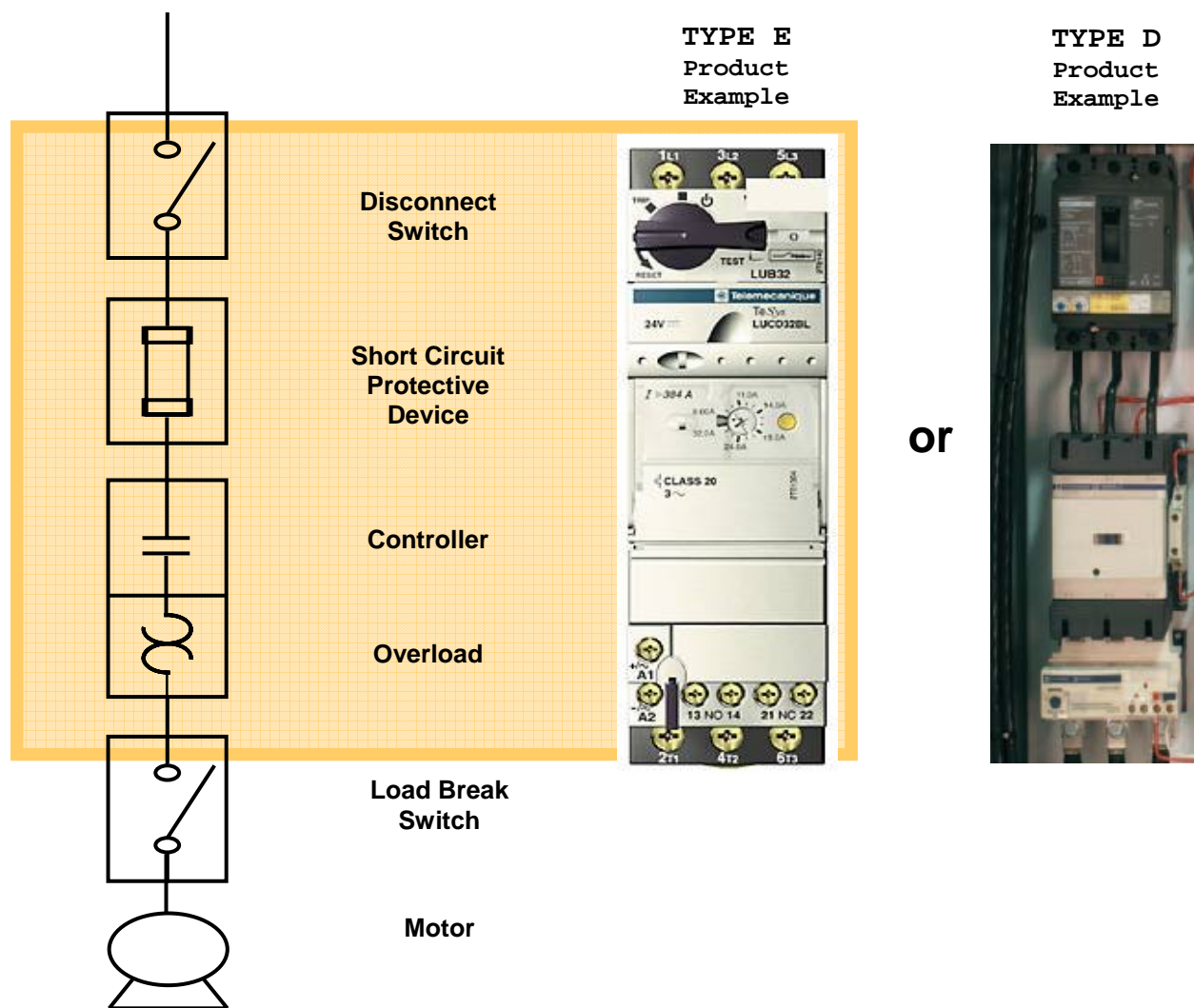
UL's UL508A Combination Motor Controller website: <http://www.ul.com/controlequipment/shortcircuit.html>



Schneider Electric
North American Operating Division
8001 Knightdale Blvd
Knightdale, NC 27545
www.us.Schneider-Electric.com



What is a UL Combination Motor Controller?



UL Combination Motor Controller Classification and Short Circuit Protective Device Employed:

- Type A = UL248 Fuse
- Type C = UL489 Thermal-magnetic circuit breaker
- Type D = UL489 Instantaneous trip circuit breaker
- Type E = UL508 Self-Protected Control Device
- Type F = UL508 Manual Self-Protected Controller



How To Interpret UL508A Combination Motor Controller Data

1. UL ID number is the documentation for the combination. Data is on Square D and UL's UL508A website.
2. Required components for each combination are specified.
3. Combination SCCR rating (higher than any individual component forming the combination).
4. Maximum rating for combination.

ID Number UL	Combination Type	Component Type	Component Manufacturer	Component Catalog Designation	Component kA	Component Max Amps	Component Volts	Component Poles	Use Auto-Filter buttons to narrow search for desired horsepower, voltage, and combination kA rating				
									Combination kA	Combination Volts	Combination Phase	Maximum Combination HP	Maximum Combination NEC FLC
SE152912	C	CB	Square D	HGL36015	65	15	600	3	65	240	3	1.5	6.0
	C	MC	Telemecanique	LC1D25	5	25	600	3					
	C	OLR	Telemecanique	LRD10	5	4 - 6	600	3					
SE152917	C	CB	Square D	HGL36020	65	20	600	3	65	240	3	2	6.8
	C	MC	Telemecanique	LC1D25	5	25	600	3					
	C	OLR	Telemecanique	LRD12	5	5.5 - 8	600	3					
SE152922	C	CB	Square D	HGL36025	65	25	600	3	65	240	3	3	9.6
	C	MC	Telemecanique	LC1D25	5	25	600	3					
	C	OLR	Telemecanique	LRD14	5	7 - 10	600	3					
SE152927	C	CB	Square D	HGL36040	65	40	600	3	65	240	3	5	15.2
	C	MC	Telemecanique	LC1D25	5	25	600	3					
	C	OLR	Telemecanique	LRD21	5	12 - 18	600	3					

5. Minimum required enclosure volume for combination.
6. Conditions of use for combination.
7. Schneider Electric UL File where construction is described and previously tested.

ID Number UL	Combination kA	Combination Volts	Combination Phase	Maximum Combination HP	Maximum Combination NEC FLC	Minimum Enclosure Volume (cu ft)	Conditions of Acceptability	Combination UL File	Other UL File References	Minimum Enclosure Volume (cu in)
SE152917	65	240	3	2	6.8	1.060	1, 7a	E40610 V12 S15	-	1832
SE152922	65	240	3	3	9.6	1.060	1, 7a	E40610 V12 S15	-	1832
SE152927	65	240	3	5	15.2	1.060	1, 7a	E40610 V12 S15	-	1832



Questions On Usage of UL508A Combination Motor Controller Data

Question 1: What is the minimum panel enclosure volume if I use multiple UL508A combination motor controllers in my panel?

Answer: Minimum panel enclosure volume is the largest enclosure volume (worst case) for any of the UL508A combination motor controllers used. For example, if panel uses three UL508A combination motor controllers that require 1, 2, and 3 cubic feet respectively, then the minimum panel enclosure volume required for all 3 of the combinations is 3 cubic feet minimum (worse case) since only one short circuit condition is assumed to possibly occur at any given time.

Question 2: If a UL508A combination motor controller data lists a thermal-magnetic circuit breaker with a given ampere rating, can I use the same circuit breaker with a lower ampere rating and still maintain the combination short circuit rating.

Answer: Yes, provided that the circuit breaker is of the same family and frame size. For example, a MAL361000 (1000 Amp) breaker is specified, could use a MAL36800 (800 Amp) circuit breaker. Note, this is only applicable for a thermal-magnetic circuit breaker and does not apply for an instantaneous trip circuit breaker.

Question 3: If UL508A combination motor controller data lists a specified fuse size, can I use a fuse with a smaller ampere rating and still maintain the combination short circuit rating.

Answer: Yes.

Question 4: If UL508A combination motor controller data lists a specified Class rated fuse, can I use a different Class rated fuse and still maintain the combination short circuit rating.

Answer: Yes, provided compliance with Exception No. 1 of SB4.2.3 of UL508A is met.