

Selection Information



Class	2510, 2511, 2512	T02, T36	8502 & 8702	8536 & 8736	8538 & 8738
		NEMA Style, Full Voltage Non-Reversing and Full Voltage Reversing			
Type of Product	Manual Starters and Switches, Non-Reversing, Reversing and Two Speed	TeSys™ N Contactors and Starters	AC Magnetic Contactors	AC Magnetic Starters	Combination Magnetic Starters with Disconnect Switch
Page	page 16-4	page 16-14	8502: page 16-30 8702: page 16-61	8536: page 16-35 8736: page 16-63	8538: page 16-48 8738: page 16-68
NEMA Sizes	M-0 M-1 M-1P	00–7	00–7	00–7	8538: 0–6 8738: 0–5
Load Voltage	Type F: 277 Vac Types K & M: 600 Vac	600 Vac Max.	600 Vac Max.	600 Vac Max.	600 Vac Max.
Current Ratings (Continuous)	Type F: 16 A Types K & M: 30 A	9–810 A	9–810 A	9–810 A	8538: 18–540 A 8738: 18–270 A
Horsepower Ratings (Maximum)	Type F: 1 Type K: 20 Type M: 10	600	0.5–600	0.5–600	8538: 0.5–400 8738: 0.5–200
Overload Relay	Type F: Melting Alloy Type K: N/A Type M: Melting Alloy	Contactors: N/A Starters: Bimetallic (Size 00-2) or Solid-State	N/A	Melting Alloy Bimetallic (Size 00–2) Solid State	Melting Alloy Bimetallic (Size 0–2) Solid State
Enclosure Types	1, Flush Mount, 3R, 4, 4X, 7 & 9 and Open	Open	1, 3R, 4, 4X, 12/3R, 7 & 9 and Open	1, 3R, 4, 4X, 12/3R, 7 & 9 and Open	1, 4, 4X, 12/3R
Approvals	UL File E42243 NLRV UR File E42243 NLRV2 CSA File LR 25490	Contactors: UL File E164862 NLDX CSA LR43364 Class 3211-24 Starters: UL File E152395 NKJH CSA LR60905 Class 3211-24	UL File E78351 NLDX CSA 60905 Class 3211-04	UL File E78351 NLDX CSA 60905 Class 3211-04	UL File E152395 NKJH7 CSA LR584 Class 3211 04

Fractional Horsepower Manual Starters with Melting Alloy Type Thermal Overload Relay

Table 16.1: Single-Unit Types—Class 2510—Rated 16 A—Thermal Units (see Thermal Unit Selection, page 16-134)

Type of Operator	No. of Poles	Features	NEMA 1 General Purpose Enclosure Surface Mounting	General Purpose Flush Mounting (Without Pull Box)			NEMA Type 4 [1] Enclosure Watertight and Dusttight	NEMA Types 3R, 7 & 9 Enclosure Hazardous Locations Div. 1 & 2 Class I Groups B, C, & D, & Class II Groups E, F, & G	Open Type	Number of Thermal Units Required
			Standard	Gray Flush Plate	Standard Stainless Steel Flush Plate	Jumbo Stainless Steel Flush Plate				
			Type	Type	Type	Type				
Basic Starter—Class 2510										
Toggle	1	Standard	FG1	FF1	—	—	—	—	FO1	1
		With Red Pilot Light [2]	FG1P	FF1P	—	—	—	—	FO1P	1
	2	Standard	FG2	FF2	FS2	—	—	—	FO2	1
		With Red Pilot Light [2]	FG2P	FF2P	—	FSJ2P	—	—	FO2P	1
Key	1	Standard	—	FF3	—	—	—	—	—	1
		With Red Pilot Light [2]	—	FF3P	—	FSJ3P	—	—	—	1
	2	Standard	—	—	—	—	—	—	FO4	1
Starter with Handle Guard/Lock-Off—Class 2510										
Toggle	1	Standard	FG5	Order basic starter plus separate handle guard kit.			FW1	FR1	[3] [4]	1
		With Red Pilot Light [2]	FG5P				FW1P	—	[3] [4]	1
	2	Standard	FG6				FW2	FR2	[3] [4]	1
		With Red Pilot Light [2]	FG6P				FW2P	—	[3] [4]	1

Table 16.2: Duplex Units—Class 2510

Type of Operator	No. of Poles	Features	NEMA 1 General Purpose Enclosure Surface Mounting	General Purpose Flush Mounting (Without Pull Box)			Number of Thermal Units Required	
			Type	Gray Flush Plate for Wall or Cavity Mounting	Stainless Steel Flush Plate for Wall or Cavity Mounting	Replacement Starter Class 2510		
One Starter in Duplex Enclosure—Class 2510								
Key	2	With Red Pilot Light [5]	FG04P	—	—	—	1	
Two Starters in One Enclosure—Class 2510								
Toggle	2 Each Str.	Standard	—	FF22	—	—	2	
Starter and Auto-Off-Hand SPDT Selector Switch (AC Only)—Class 2510								
Toggle	1	Standard	FG71	—	—	—	1	
		With Red Pilot Light [5]	FG71P	—	—	—		
	2	Standard	—	FF72	—	—	1	
		With Red Pilot Light[5]	—	FF72P	FS72P	—		
Key	2	With Red Pilot Light[5]	—	—	FS74P	—	1	
Two Speed Starters (AC Only)—Class 2512						Replacement Starter—Class 2510		
	2	With Mechanical Interlock:						2
		Standard	—	FF22	—	FO2T		
		With 2 Red Pilot Lights [5]	—	—	—	FO2PT		
		With High-Off-Low Selector Switch:						
		With 2 Red Pilot Lights [5]	—	—	—	FO2PT		

Table 16.3: Horsepower Ratings, Type F (continuous current rating: 16 A)

Volts	Maximum Horsepower		
	AC Single Phase		DC 2-Pole Only
	1-Pole	2-Pole	
115	1	1	3/4
230	1	2	3/4
277	1	1	—

Table 16.4: Approvals—2510 Type F and K

Agency	Enclosed	Open
UL	UL Listed File: E42243, CCN: NLRV	UL Component Recognized File: E42243, CCN: NLRV2
CSA	CSA Certified File: LR25490, Class: 3211-05	

Table 16.5: How to Order

To Order Specify:	Catalog Number
• Class Number	Class Type
• Type Number	2510 FG1

Manual Switches, Type K

Table 16.6: Non-Reversing—Class 2510

Operator Style	No. of Poles	Features	NEMA 1 General Purpose Enclosure Surface Mounting		General Purpose Flush Mounting (Without Pull Box)			NEMA 4 Enclosure ^[1] Watertight and Dusttight	NEMA 3R, 7 & 9 Enclosures ^[1] Hazardous Locations Div. 1 & 2 Class I Groups B, C, & D, & Class II Groups E, F, and G	Open Style
			Standard	Oversized	Gray Flush Plate	Standard Stainless Steel Flush Plate	Jumbo Stainless Steel Flush Plate			
			Type	Type	Type	Type	Type			
Toggle	2	Standard	KG1	KGJ1	KF1	—	—	KW1	KR1	KO1

[1] Furnished with one 3/4 in. pipe tap in the bottom (reversible for top feed). For a 3/4 in. pipe tap in the top and bottom, add the suffix H to the Type.

[2] Pilot light units are limited to 240V. For a green pilot light, add the letter G to the catalog number (i.e. 2510FG2PG).

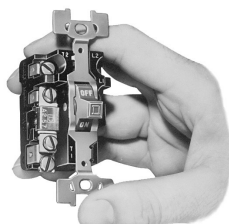
[3] For a replacement starter, order the Open type above.

[4] When replacing a starter equipped with a pilot light in NEMA 4 enclosure, retain the pilot light mounting bracket from the original device.

[5] For a green pilot light, add the letter G to the catalog number (i.e. 2510FG2PG).



Type FG2P



Type FO2

Table 16.6 Non-Reversing—Class 2510 (cont'd.)

Operator Style	No. of Poles	Features	NEMA 1 General Purpose Enclosure Surface Mounting		General Purpose Flush Mounting (Without Pull Box)			NEMA 4 Enclosure [6] Watertight and Dusttight	NEMA 3R, 7 & 9 Enclosures [6] Hazardous Locations Div. 1 & 2 Class I Groups B, C, & D, & Class II Groups E, F, and G		Open Style
			Standard	Oversized	Gray Flush Plate	Standard Stainless Steel Flush Plate	Jumbo Stainless Steel Flush Plate				
			Type	Type	Type	Type	Type	Type	Type	Type	Type
	3	With Pilot Light [6]	115 Vac	KG1A	—	—	—	—	KW1A	—	—
			230 Vac	KG1B	—	—	—	—	KW1B	—	—
		Standard	—	KG2	KGJ2	KF2	KS2	—	KW2	KR2	KO2
		With Pilot Light [6]	208–277 Vac	KG2B	—	—	—	—	KW2B	—	—
			440–600 Vac	KG2C	—	—	—	KSJ2C	KW2C	—	KO2C [7]
		Standard	—	KG5	—	—	—	—	—	—	—
	2		230 Vac	KG5B	—	—	—	—	—	—	—
	3	Standard	—	KG6	—	—	—	—	KW6	—	KO6
		With Pilot Light [6]	208–277 Vac	—	—	—	—	—	KW6B	—	—
			440–600 Vac	KG6C	—	—	—	—	—	—	—
Key	2	Standard	—	—	—	KS3	—	—	—	—	KO3
		With Pilot Light [6]	115 Vac	—	—	KS3A	KSJ3A	—	—	—	—
			230 Vac	—	—	—	KSJ3B	—	—	—	KO3B
	3	Standard	—	KGJ4	KF4	—	—	—	—	—	—
		With Pilot Light [6]	208–277 Vac	—	KGJ4B	—	—	—	—	—	—
			440–600 Vac	—	KGJ4C	KF4C	—	—	—	—	—

Table 16.7: Reversing—Class 2511

Operator Style	No. of Poles	Suitable for Motor Types	Features (Including Mechanical Interlock)		NEMA 1 General Purpose Enclosure Surface Mounting	With Flush Plate for Cavity Mounting (Without Pull Box)	Replacement Switch Class 2510
					Type	Type	Type
Toggle	3	3 Ø; Also 1 Ø Capacitor, Split Ø, or 4-Lead Repulsion-Induction	With Pilot Light [8]	110–120 Vac	KG22A	KF22A	KO2AT

Table 16.8: Class 2511 and 2512 Horsepower Ratings Type K

Device	No. of Poles	Motor Type AC	Maximum Hp			Maximum DC Hp (breaking 2 poles)		
			115 V	230 V	460–575 V	90 V	115 V	230 V
Class 2511	2	1 Ø	2	2	3	1	2	1-1/2
	3	3Ø	2	7-1/2	10			
	2	1 Ø	2	2	3			
Class 2512	3	3 Ø, Constant or Variable Torque	2	7-1/2	10			
	3	3 Ø, Constant Hp	2	7-1/2	10			
Continuous current rating			30 A at 600 Vac maximum			30 A at 24 Vdc maximum		

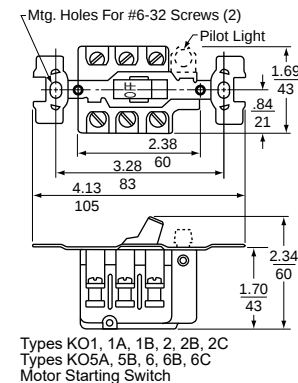
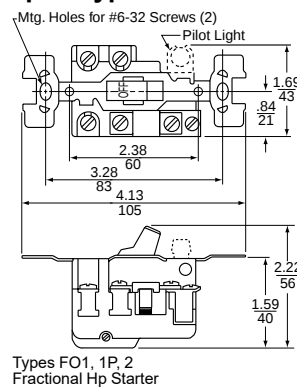
Table 16.9: Class 2510 Horsepower Ratings

Class 2510	No. of Poles	Motor Type AC	Maximum Hp				Maximum DC Hp (breaking 2 poles)		
			115 V	230 V	460 V	575 V	90 V	115 V	230 V
KO1	2	Single Ø	2	2	3	3	1	2	1-1/2
KO3	3	Three Ø	2	7-1/2	10	10			
KO6	3	Three Ø	2	7-1/2	15	20			
Continuous current rating			30 A at 600 Vac maximum				30 A at 24 Vdc maximum		

Table 16.10: How to Order

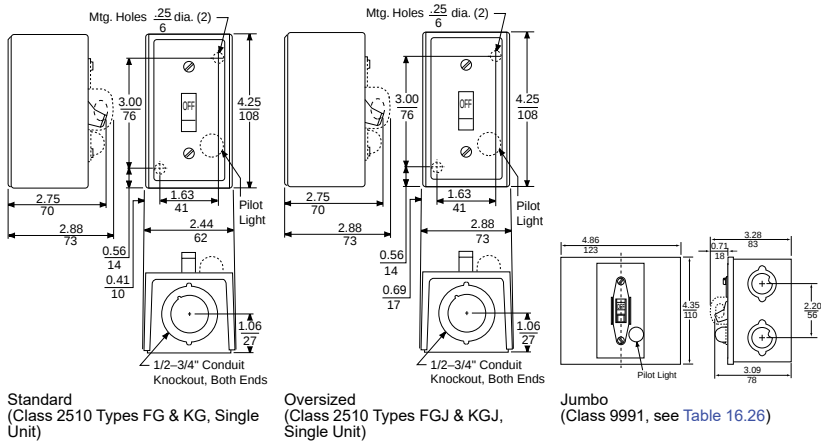
To Order Specify:		Catalog Number	
• Class Number		Class	Type
• Type Number		2510	KO2

Open Type



[6] Furnished with one 3/4 in. pipe tap in the bottom (reversible for top feed). For a 3/4 in. pipe tap in the top and bottom, add the suffix **H** to the Type.
[6] For a green pilot light, add the letter **G** to the catalog number (i.e. 2510FG2PG)
[7] When replacing a starter equipped with a pilot light in NEMA 4 enclosure, retain the pilot light mounting bracket from the original device.
[8] For a green pilot light, add the letter **G** to the catalog number.

NEMA 1 General Purpose Enclosure (Surface Mount)



NEMA 1 General Purpose Enclosure (Flush Mount)

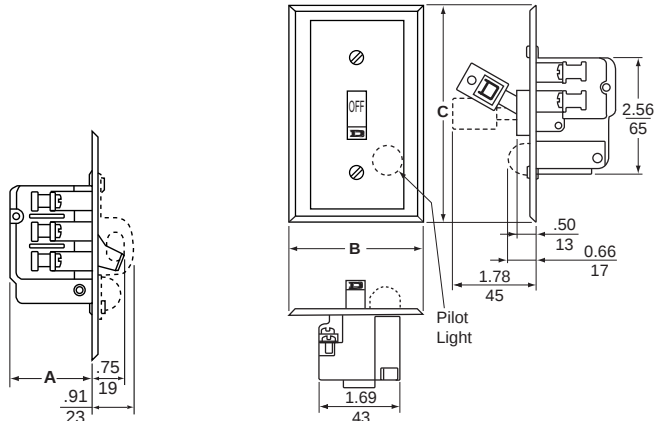


Table 16.11: General Purpose Enclosure (Flush Mount)

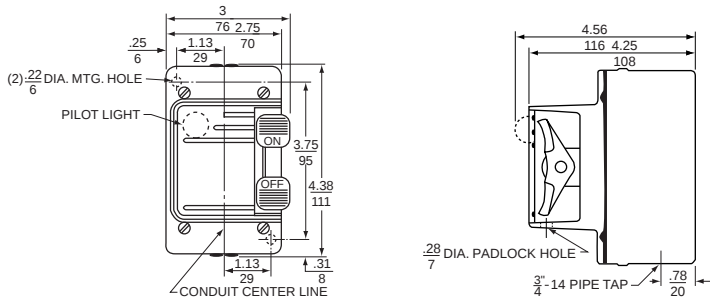
Device	Type of Operator	Class 2510 Type	Dimensions		
			A	B	C
Fractional Hp Starter	Toggle	FF1, 1P, 2, 2P, FS1, 1P, 2, 2P	1.44	2.75	4.5
		FSJ2P	1.44	3.5	5.25
	Key	FF3, 3P, 4, 4P, FS3P, 4, 4P	1.44	2.75	4.5
		FSJ3P, 4P	1.44	3.5	5.25
Motor Starting Switch	Toggle	KF1, 1A, 1B, 2, 2B, 2C KS1, 1A, 1B, 2, 2B, 2C	1.75	2.75	4.5
		KSJ1B, 2B, 2C	1.75	3.5	5.25
	Key	KF3A, 3B, 4, 4B, 4C KS3, 3A, 3B, 4, 4B, 4C	1.75	2.75	4.5
		KSJ3A, 3B, 4B, 4C	1.75	3.5	5.25

NOTE: These dimensions are for reference only. If you need precise measurements, contact the Customer Care Center at 1-888-778-2733.

Table 16.12: NEMA 4 Watertight Die-Cast Zinc Enclosure

Device	Class	Type
Fractional Hp Starter	2510	FW1, 1P, 2, 2P
Motor Starting Switch	2510	KW1, 1A, 1B, 2, 2B, 2C

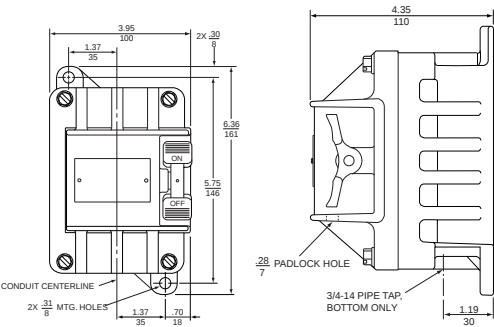
NEMA 4 Watertight Die-Cast Zinc Enclosure



NEMA 3R Aluminum Enclosure for Hazardous Locations

Table 16.13: NEMA 3R Aluminum Enclosure for Hazardous Locations

Device	Class	Type
Fractional Hp Starter	2510	FR1, 2
Motor Starting Switch	2510	KR1, 2



Dimensions for Duplex Devices

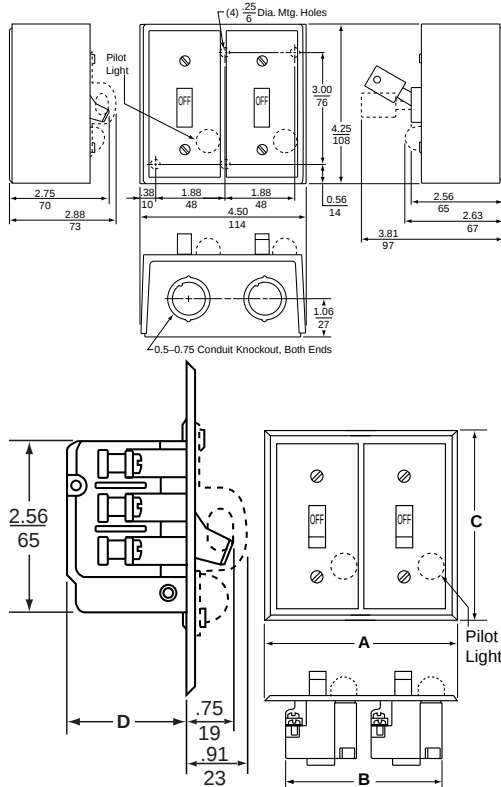
NOTE: These dimensions are for reference only. If you need precise measurements, contact the Customer Care Center at 1-888-778-2733.

Table 16.14: NEMA 1 General Purpose Surface Mount Enclosure for Duplex Devices

Device	Type of Operator	Class	Type
One Starter	Toggle	2510	FGO2, 02P
	Key	2510	FGO4P
Two Starters	Toggle	2510	FG22P
One Starter and One Selector Switch ^[9]	Toggle	2510	FG71, 71P, 72, 72P
Reversing Switch ^[10]	Toggle	2511	KG11A, 11B, 22, 22A, 22B, 22C
Two-Speed Starter	Toggle	2512	FG11P, 22, 22P
Two-Speed Switch	Toggle	2512	KG11A, 11B, 22, 22B, 22C

Table 16.15: General Purpose Flush Mounting Plate for Duplex Devices

Device	Type of Operator	Class	Type	Dimensions ^[11]			
				A	B	C	D
Two Starters	Toggle	2510	FF22, 22P	5.25	3.75	5.25	1.44
One Starter and One Selector Switch ^[12]	Toggle	2510	FF71P, 72, 72P	5.25	0.75	5.25	2
			FS72P	4.56	3.5	4.5	2
	Key	2510	FS74P	4.56	3.5	4.5	2
Reversing Switch	Toggle	2511	KF11A, 11B KF22A KF22C	5.25	3.75	5.25	1.75
Two-Speed Starter	Toggle	2512	FF11P, 22, 22P	5.25	3.75	5.25	1.44
Two-Speed Switch	Toggle	2512	KF11A, 11B, KF22B, 22C	5.25	3.75	5.25	1.75



^[9] Selector switch is on the left and increases the overall depth to 3.5 in.
^[10] Only one pilot light (located on right) is used on Class 2511 switches.
^[11] Dimensions include factory wired power connections.
^[12] Selector Switch is on left, extends 1-5/8" from mounting surface.