

NEMA Type 4X Safety Switches in Fiberglass-Reinforced Polyester Enclosures Class 3110

INTRODUCTION



Square D offers a line of watertight, corrosion-resistant NEMA Type 4X safety switches in fiberglass-reinforced polyester enclosures. These versatile switches feature:

- Corrosion-resistant enclosure materials
- Suitability for use in harsh environments, such as:
 - Food processing plants
 - Textile mills
 - Pulp and paper mills
 - Chemical plants
 - Petroleum facilities
 - Water treatment or sewage treatment plants
- Mounting feet molded as part of the enclosure for quick and rigid mounting
- One-piece enclosure construction for additional strength
- Seamless, non-exposed gasket for greater sealing integrity
- Stainless steel door hinge for added durability
- Hubs included

The NEMA Type 4X line, identified by “DF” in catalog numbers, is available in 30 to 200 A, 600 V fusible or not fusible switches. The line includes 200 A switches in non-metallic enclosures. This bulletin contains specifications and application data for NEMA Type 4X switches. For more information, contact your local sales representative.

SPECIFICATIONS

Fiberglass-reinforced polyester enclosures are watertight, corrosion resistant, and impervious to windblown dust, rain, and splashing liquid. The molded fiberglass is extremely stable in a wide range of operating temperatures, and can withstand heavy impact. Switches are furnished with two PVC coated conduit hubs and equipment grounding lugs. The 30 to 100 A switches are suitable for use as service equipment. NEMA Type 4X switches are UL Listed and CSA certified.

Table 1: 3-Pole, 600 Vac, 600 Vdc Switches and Ratings

System	Amperage	Catalog Numbers					Horsepower Ratings				
		Safety Switch	Class R Fuse Kits	Neutral Kits	Electrical Interlock Kits Field Installable		480 Vac—3Ø		600 Vac—3Ø		600 Vdc
					1 NO / 1 NC Contact	2 NO / 2 NC Contacts	Std.	Max.	Std.	Max.	Max.
Fusible											
	30	H361DF	RFK06	H60SN ^[1]	9999-TC10	9999-TC20	5	15	7.5	20	15
	60	H362DF	RFK06H	H60SN ^[1]	9999-TC10	9999-TC20	15	30	15	50	30
	100	H363DF	RFK10	SN0610 ^[2]	9999-TC10	9999-TC20	25	60	30	75	50
	200	H364DF	HRK1020	—	9999-R8	9999-R9	50	125	60	150	50
Not Fusible											
	30	HU361DF	—	H60SN ^[1]	9999-TC10	9999-TC20	—	20	—	30	15
	60	HU362DF	—	H60SN ^[1]	9999-TC10	9999-TC20	—	50	—	60	30
	100	HU363DF	—	SN0610 ^[2]	9999-TC10	9999-TC20	—	75	—	75	50
	200	HU364DF	—	—	9999-R8	9999-R9	—	125	—	150	50

^[1] Use CH60SN in Canada. ^[2] Use CSN0610 in Canada.

DIMENSIONS

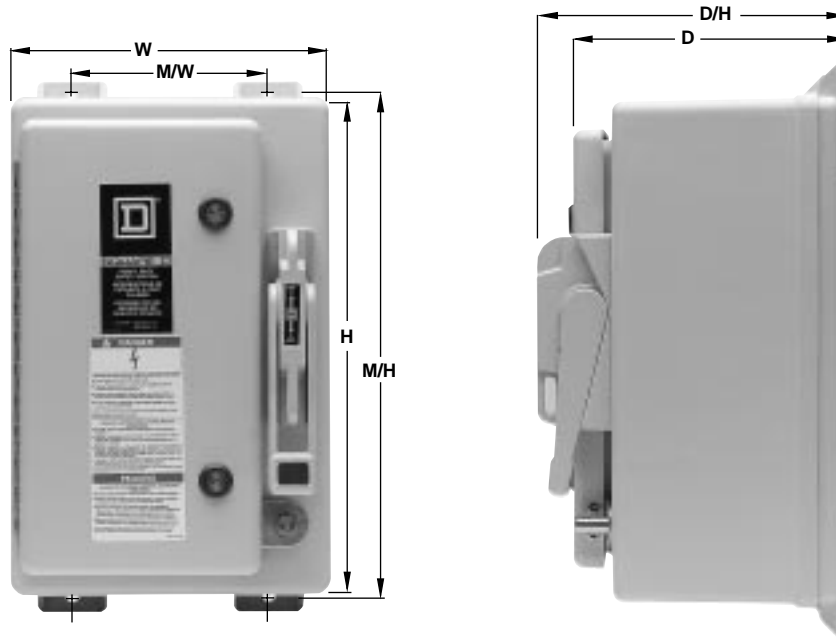


Figure 1: Fiberglass-Reinforced Polyester Enclosure (see Table 2)

Table 2: Enclosure Dimensions and Weights

Catalog No.	Series	H		W		D		M/W		M/H		D/H		Mounting Holes		Weight	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
H361DF	F1	16.5	419	11	279	8.8	222	7	178	17.5	445	10.25	260	0.5	13	21	10
H362DF	F1	16.5	419	11	279	8.8	222	7	178	17.5	445	10.25	260	0.5	13	23	10
H363DF	F1	24.8	630	13.7	348	12	305	6.3	159	25.8	654	13.25	337	0.5	13	41	19
H364DF	E1	31.3	795	26.3	668	11.8	298	18.5	470	32.3	819	13.2	335	0.5	13	89	40
HU361DF	F1	16.5	419	11	279	8.8	222	7	178	17.5	445	10.25	260	0.5	13	21	10
HU362DF	F1	16.5	419	11	279	8.8	222	7	178	17.5	445	10.25	260	0.5	13	22	10
HU363DF	F1	24.8	630	13.7	348	12	305	6.3	159	25.8	654	13.25	337	0.5	13	40	18
HU364DF	E1	31.3	795	26.3	668	11.8	298	18.5	490	32.3	819	13.2	335	0.5	13	89	40

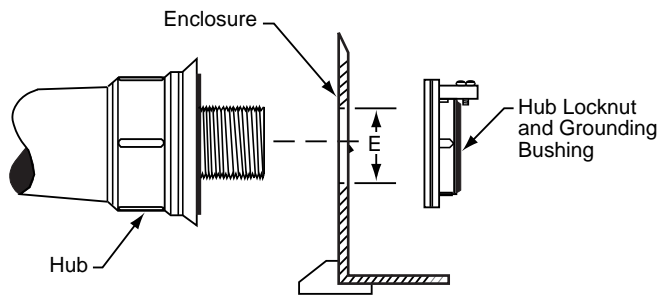


Figure 2: Conduit Hub (see Table 3)

Table 3: Conduit Hub Dimensions

Switch Catalog No.	Conduit Hub No. (2 each included)	Conduit Hub Size		Enclosure Hole Size (E)	
		in.	mm	in.	mm
H361DF	STG2	0.75	19	1.13	28
H362DF	STG4	1.25	32	1.75	44
H363DF	STG6	2	51	2.5	64
H364DF	STG7	2.5	64	3	76
HU361DF	STG2	0.75	19	1.13	28
HU362DF	STG4	1.25	32	1.75	44
HU363DF	STG6	2	51	2.5	64
HU364DF	STG7	2.5	64	3	76

CHEMICAL
RESISTANCE DATA

Table 4 lists recommendations from Square D for NEMA Type 4X safety switch resistance to various chemical agents. These recommendations are based on ASTM test method D 543, "Resistance of Plastics to Chemical Reagent."

Test results are usually obtained by immersing a specimen in a given reagent until some physical change is detected. Changes in surface hardness, color, flexural strength, tensile strength, and elongation are all considered in evaluating chemical attack. Often test results are accelerated through immersion at elevated temperatures.

Sources of information include vendor-supplied data, publications such as "The Plastics Encyclopedia," and independent laboratory tests. Laboratory data generated under artificial accelerated conditions may not relate well to "real-world" conditions. For this reason, our published information is quite conservative. Contact your local sales representative to review data generated for your specific application.

Table 4: Chemical Resistance Data


Chemical	Square D Recommendation	Chemical	Square D Recommendation	Chemical	Square D Recommendation
Acetaldehyde	S	Ferric Chloride	S	Potassium Carbonate	M
Acetic Acid	S	Ferric Nitrate	S	Potassium Chromate	S
Acetone	L	Ferric Sulfate	S	Potassium Hydroxide	L
Alcohols	S	Fluorine	U	Potassium Permangan	M
Aluminum Chloride	S	Formaldehyde	S	Potassium Sulfate	S
Aluminum Sulfate	S	Formic Acid	S	Sea Water	S
Ammonia Gas	S	Gasoline	S	Silver Nitrate	S
Ammonium Hydroxide	L	Glycerine	S	Sodium Bisulfate	S
Ammonium Nitrate	S	Hydrochloric Acid (100)	M	Sodium Carbonate	M
Ammonium Sulfate	S	Hydrocyanic Acid	U	Sodium Chloride	S
Aniline	U	Hydrofluoric Acid (200)	U	Sodium Hydroxide (50/0)	M
Benzene	S	Hydrogen Peroxide	M	Sodium Hypochlorite	L
Boric Acid	S	Hydrogen Sulfide	S	Sodium Nitrate	S
Bromine	L	Hypochlorous Acid	S	Sodium Phosphate	S
Butyl Acetate	L	Kerosene	S	Sodium Sulfate	S
Butyric Acid	S	Lacquer	M	Sodium Sulfite	S
Calcium Chloride	S	Lactic Acid	S	Sugar Liquor	S
Calcium Hydroxide	S	Lime	M	Sulfur	S
Calcium Hypochlorite	M	Lubricating Oils	S	Sulfuric Acid (490/0)	S
Carbolic Acid	S	Magnesium Salts	S	Sulfurous Acid	S
Carbonic Acid	S	Methyl Ethyl Ketone	L	Sulfur Dioxide	S
Carbon Disulfide	L	Milk	S	Tannic Acid	S
Carbon Tetrachloride	M	Mineral Oil	S	Tartaric Acid	S
Chlorine (wet)	L	Nickel Salts	S	Toluene	M
Chlorine (dry)	S	Nitric Acid (100/0)	M	Trichloroethylene	U
Chlorobenzene	S	Nitro Benzene	L	Trisodium Phosphate	M
Chloroform	U	Oleic Acid	S	Turpentine	M
Chromic Acid	S	Oxalic Acid	S	Vegetable Oils	S
Citric Acid	S	Perchloroethylene	M	Vinegar	S
Copper Sulfate	S	Perchloric Acid	U	Water, Industrial	S
Creosote	L	Phenol	L	Water, Tap	S
Diethyl Ether	S	Phosphoric Acid (250/0)	S	Water, Rain	S
Ethyl Acetate	L	Picric Acid	S	Zinc Acetate	S
Ethylene Dichloride	L	Potassium Alum	S	Zinc Chloride	S
Ethylene Glycol	S	Potassium Bicarbonate	S	Zinc Sulfate	S

Key: S—Superior resistance; M—Moderate resistance; L—Limited resistance; U—Unsatisfactory resistance



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