

General Purpose

Energy efficient dry-type transformers 600 Volt Class, isolation type, single and three phase, 15 kVA through 500 kVA. Indoor and outdoor models available.

Accessories and Optional Design Styles

- Wall mounting brackets (500 lbs maximum)
- Weather Shields (UL-3R)*
- Stainless Steel Enclosures
- Totally enclosed non-ventilated designs (TENV) (Non UL)
- Open core and coil designs (UR) (Non CSA)
- Copper Wound designs
- Low temperature designs

Features

- UL-3R ventilated outdoor enclosures when used with optional weather shields (order separately)
- UL Class 220°C insulation system, 150°C temperature rise under full load
- Electrostatically shielded for quality power
- Terminal board connections and spacious wiring compartment



- Panel enclosure design reduces labor time. Wiring diagram on inside front cover.
- High efficiency for low cost operation
- Compliant to NEMA TP-1 Standards
- Single and three phase availability
- Fast delivery
- 10 + 2 years warranty

Selection Tables: Single Phase

Group 1: 240 x 480 Volt Primary, 120/240 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R WeatherShield*	Height (inch)	Width (inch)	Depth (inch)	Approx. Ship Weight (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ES5H15S	WS-15	23	16	16	175	1	1	62.5/31.3	125/62.5
25	ES5H25S	WS-15	28	16	16	265	1	1	104/52.1	208/104
37.5	ES5H37S	WS-17	31	18	18	340	1	1	156/78	313/156
50	ES5H50S	WS-17	31	18	18	425	1	1	208/104	416/208
75	ES5H75S	WS-09	44	23	21	655	1	1	313/156	625/313
100	ES5H100S	WS-09	44	23	21	750	1	1	417/208	833/417
167	ES5H167S	WS-16	46	26	24	980	1	1	695/348	1392/695

Group 2 – 600 Volt Primary, 120/240 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R WeatherShield*	Height (inch)	Width (inch)	Depth (inch)	Approx. Ship Weight (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ES10H15S	WS-15	23	16	16	175	1	4	25	125/62.5
25	ES10H25S	WS-15	28	16	16	265	1	4	41.7	208/104
37.5	ES10H37S	WS-17	31	18	18	340	1	4	62.5	313/156
50	ES10H50S	WS-17	31	18	18	425	1	4	83.3	416/208
75	ES10H75S	WS-09	44	23	21	655	1	4	125	625/313
100	ES10H100S	WS-09	44	23	21	750	1	4	167	833/417
167	ES10H167S	WS-16	46	26	24	980	1	4	278	1392/695

* Weather shields (set of two) must be ordered separately.

**Design Style and Electrical Connections can be found on pages 165-166.

Selection Tables: Three Phase

Group A: 480 Volt Δ Primary, 208/120 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Approx. Ship Weight (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET2H15S	WS-02	23	18	14	187	1	2	18.1	41.7
30	ET2H30S	WS-14	28	23	16	292	1	2	36.1	83.4
45	ET2H45S	WS-14	28	23	16	376	1	2	54.2	125.0
75	ET2H75S	WS-30	34	28	22	569	1	2	90.3	208.0
112.5	ET2H112S	WS-30	34	28	22	768	1	2	135.0	313.0
150	ET2H150S	WS-10	44	33	21	933	1	2	181.0	417.0
225	ET2H225S	WS-11	46	36	24	1342	1	2	271.0	625.0
300	ET2H300S	WS-11	46	36	24	1525	1	2	361.0	834.0
500	ET2H500S	WS-12	65	45	35	2460	1	2	602.0	1390.0

Group B: 480 Volt Δ Primary, 240 Volt Δ , Secondary with reduced capacity center tap, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield**	Height (inch)	Width (inch)	Depth (inch)	Approx. Ship Weight (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET5H15S	WS-02	23	19	14	189	1	3	18.1	36.1
30	ET5H30S	WS-14	28	23	16	292	1	3	36.1	72.3
45	ET5H45S	WS-14	28	23	16	381	1	3	54.2	108.0
75	ET5H75S	WS-30	34	28	22	560	1	3	90.3	181.0
112.5	ET5H112S	WS-30	34	28	22	760	1	3	135.0	271.0
150	ET5H150S	WS-10	44	33	21	940	1	3	181.0	361.0
225	ET5H225S	WS-11	46	36	24	1342	1	3	271.0	542.0
300	ET5H300S	WS-11	46	36	24	1525	1	3	361.0	723.0
500	ET5H500S	WS-12	65	45	35	2460	1	3	602.0	1204.0

Group C: 480 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Approx. Ship Weight (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET81H15S	WS-02	23	18	14	189	1	5	18.1	18.1
30	ET81H30S	WS-14	28	23	16	295	1	5	36.1	36.1
45	ET81H45S	WS-14	28	23	16	380	1	5	54.2	54.2
75	ET81H75S	WS-30	34	28	22	560	1	5	90.3	90.3
112.5	ET81H112S	WS-30	34	28	22	780	1	5	135.0	135.0
150	ET81H150S	WS-10	44	33	21	933	1	5	181.0	181.0
225	ET81H225S	WS-11	46	36	24	1342	1	5	271.0	271.0
300	ET81H300S	WS-11	46	36	24	1525	1	5	361.0	361.0
500	ET81H500S	WS-12	65	45	35	2460	1	5	602.0	602.0

* Weather shields (set of two) must be ordered separately.

**Design Style and Electrical Connections can be found on pages 165-166.

Group D: 208 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Ship Weight Approx. (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET84H15S	WS-02	23	18	14	195	1	7	41.7	18.1
30	ET84H30S	WS-14	28	23	16	295	1	7	83.4	36.1
45	ET84H45S	WS-14	28	23	16	375	1	7	125.0	54.2
75	ET84H75S	WS-30	34	28	22	570	1	7	208.0	90.3
112.5	ET84H112S	WS-30	34	28	22	780	1	7	313.0	135.0
150	ET84H150S	WS-10	44	33	21	972	1	7	417.0	181.0

Group E: 208 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Ship Weight Approx. (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET3H15S	WS-02	23	18	14	205	1	6	41.7	41.7
30	ET3H30S	WS-14	28	23	16	385	1	6	83.4	83.4
45	ET3H45S	WS-14	28	23	16	405	1	6	125.0	125.0
75	ET3H75S	WS-30	34	28	22	535	1	6	208.0	208.0
112.5	ET3H112S	WS-30	34	28	22	805	1	6	313.0	313.0
150	ET3H150S	WS-10	44	33	21	1350	1	6	416.0	416.0

Group F: 240 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Ship Weight Approx. (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET6H15S	WS-02	23	18	14	190	1	8	36.1	41.7
30	ET6H30S	WS-14	28	23	16	295	1	8	72.3	83.4
45	ET6H45S	WS-14	28	23	16	380	1	8	108.0	125.0
75	ET6H75S	WS-30	34	28	22	570	1	8	181.0	208.0
112.5	ET6H112S	WS-30	34	28	22	805	1	8	271.0	313.0
150	ET6H150S	WS-10	44	33	21	972	1	8	361.0	417.0

Group G: 240 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Ship Weight Approx. (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET85H15S	WS-02	23	18	14	190	1	9	36.1	18.1
30	ET85H30S	WS-14	28	23	16	300	1	9	72.3	36.1
45	ET85H45S	WS-14	28	23	16	405	1	9	108.0	54.2
75	ET85H75S	WS-30	34	28	22	560	1	9	181.0	90.3
112.5	ET85H112S	WS-30	34	28	22	805	1	9	271.0	135.0
150	ET85H150S	WS-10	44	33	21	972	1	9	361.0	181.0

* Weather shields (set of two) must be ordered separately.

**Design Style and Electrical Connections can be found on pages 165-166.

Group H: 600 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Approx. Ship Weight (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET7H15S	WS-02	23	18	14	190	1	10	14.5	41.7
30	ET7H30S	WS-14	28	23	16	305	1	10	28.9	83.4
45	ET7H45S	WS-14	28	23	16	405	1	10	43.4	125.0
75	ET7H75S	WS-30	34	28	22	535	1	10	72.3	208.0
112.5	ET7H112S	WS-30	34	28	22	805	1	10	108.0	313.0
150	ET7H150S	WS-10	44	33	21	972	1	10	145.0	417.0
225	ET7H225S	WS-11	46	36	24	1325	1	10	217.0	625.0
300	ET7H300S	WS-11	46	36	24	1525	1	10	289.0	834.0
500	ET7H500S	WS-12	65	45	35	2460	1	10	482.0	1390.0

Group I: 600 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Ship Weight Approx. (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET71H15S	WS-02	23	18	14	190	1	11	14.5	18.1
30	ET71H30S	WS-14	28	23	16	305	1	11	28.9	36.1
45	ET71H45S	WS-14	28	23	16	380	1	11	43.4	54.2
75	ET71H75S	WS-30	34	28	22	560	1	11	72.3	90.3
112.5	ET71H112S	WS-30	34	28	22	780	1	11	108.2	135.3
150	ET71H150S	WS-10	44	33	21	975	1	11	144.3	180.4

Group J: 480 Volt Δ Primary, 208Y/120 Secondary, 60 Hz, Copper-Wound

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Ship Weight Approx. (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET2H15SCU	WS-02	23	18	14	205	1	2	18.1	41.7
30	ET2H30SCU	WS-14	28	23	16	305	1	2	36.1	83.4
45	ET2H45SCU	WS-14	28	23	16	405	1	2	54.2	125.0
75	ET2H75SCU	WS-30	34	28	22	535	1	2	90.3	208.0
112.5	ET2H112SCU	WS-30	34	28	22	805	1	2	135.0	313.0
150	ET2H150SCU	WS-10	44	33	21	972	1	2	181.0	417.0
225	ET2H225SCU	WS-11	46	36	24	1325	1	2	271.0	625.0
300	ET2H300SCU	WS-11	46	36	24	1515	1	2	361.0	834.0
500	ET2H500SCU	WS-12	65	45	35	2460	1	2	602.0	1390.0

Group K: 480 Volt Δ Primary, 380Y/220 Secondary, 60 Hz

kVA	Catalog Number	NEMA 3R Weather Shield*	Height (inch)	Width (inch)	Depth (inch)	Ship Weight Approx. (lbs)	Design Style**	Elec Conn**	Primary Amps	Secondary Amps
15	ET79H15S	WS-02	23	18	14	173	1	5	18.1	22.8
30	ET79H30S	WS-14	28	23	16	243	1	5	36.1	45.6
45	ET79H45S	WS-14	28	23	16	333	1	5	54.2	68.4
75	ET79H75S	WS-30	34	28	22	495	1	5	90.3	114.0
112.5	ET79H112S	WS-30	34	28	22	780	1	5	135.3	170.9
150	ET79H150S	WS-10	44	33	21	975	1	5	180.4	227.9

* Weather shields (set of two) must be ordered separately.

**Design Style and Electrical Connections can be found on pages 165-166.

Electrical Connections

240 x 480 Volt Primary,
120/240 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN

Primary Voltage	Interconnect	Connect Lines To
504	1 to 2	H1 & H2
492	2 to 3	H1 & H2
480	3 to 4	H1 & H2
468	4 to 5	H1 & H2
456	5 to 6	H1 & H2
444	6 to 7	H1 & H2
432	7 to 8	H1 & H2
252	H1 to 2 H2 to 1	H1 & H2
240	H1 to 4 H2 to 3	H1 & H2
228	H1 to 6 H2 to 5	H1 & H2
216	H1 to 8 H2 to 7	H1 & H2

Secondary Voltage	Interconnect	Connect Lines To
240	X2 to X3	X1 & X4
120-0-120	X2 to X3 X2 to \perp	X1-X2-X4
120	X1 to X3 X2 to X4	X1 & X4

S5 Series

480 Δ Volt Primary,
208Y/120 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	X1, X2, X3	X0- X1, X2, X3
1	504	208	120
2	492		
3	480		
4	468		
5	456		
6	444		
7	432		

T2 Series

480 Δ Volt Primary,
240 Δ W/120 CT Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	X1, X2, X3	X6-X1, X6-X3
1	504	240	120
2	492		
3	480		
4	468		
5	456		
6	444		
7	432		

T5 Series

600 Volt Primary,
120/240 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN

Primary H1-H2-H3	Interconnect	Connect Lines To
630	1 to 2	H1 & H2
615	2 to 3	H1 & H2
600	3 to 4	H1 & H2
585	4 to 5	H1 & H2
570	5 to 6	H1 & H2
555	6 to 7	H1 & H2
540	7 to 8	H1 & H2

Secondary Voltage	Interconnect	Connect Lines To
240	X2 to X3	X1 & X4
120-0-120	X2 to X3 X2 to \perp	X1-X2-X4
120	X1 to X3 X2 to X4	X1 & X4

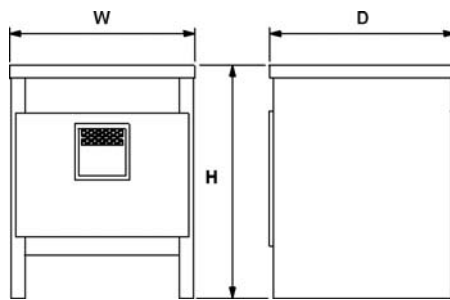
S10 Series

480 Δ Volt Primary
380/220 or 480Y/277 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	X1, X2, X3	X0- X1, X2, X3
1	504	380 480	220 277
2	492		
3	480		
4	468		
5	456		
6	444		
7	432		

T79 & T81 Series

Design Style



Ventilated Design Style 1

Electrical Connections

208 Δ Volt Primary
208Y/120 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN **6**

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	X1, X2, X3	X0- X1, X2, X3
1	218	208	120
2	213		
3	208		
4	203		
5	198		
6	192		
7	187		

T3 Series

208 Δ Volt Primary
480Y/277 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN **7**

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	H1-H2-H3	H0-H1, H2, H3
1	218	480	277
2	213		
3	208		
4	203		
5	198		
6	192		
7	187		

T84 Series

240 Δ Volt Primary
208Y/120 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN **8**

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	X1, X2, X3	X0- X1, X2, X3
1	252	208	120
2	246		
3	240		
4	234		
5	228		
6	222		
7	216		

T6 Series

240 Δ Volt Primary
480Y/277 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN **9**

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	X1, X2, X3	X0- X1, X2, X3
1	252	480	277
2	246		
3	240		
4	234		
5	228		
6	222		
7	216		

T85 Series

600 Δ Volt Primary
208Y/120 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN **10**

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	X1, X2, X3	X0- X1, X2, X3
1	630	208	120
2	615		
3	600		
4	585		
5	570		
6	555		
7	540		

T7 Series

600 Δ Volt Primary
480Y/277 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN **11**

Primary H1-H2-H3		Secondary Voltage	
@ Tap	Voltage	X1, X2, X3	X0- X1, X2, X3
1	630	480	277
2	615		
3	600		
4	585		
5	570		
6	555		
7	540		

T71 Series