

**HSZ Series Industrial Control Transformers**

The SolaHD HSZ Series is for applications where cost or heat issues make mounting the transformer outside the control panel necessary. This series has 80°C rise and have copper winding for industrial applications.

**Features**

- UL Class 180°C insulation system, 80°C temperature rise under full load
- Meets or exceeds NEMA regulation standards
- Copper windings
- Encapsulated
- Standard enclosure styles available:
  - UL Listed/NEMA Type 3R (rain proof)
  - UL Listed/NEMA Type 4 (wash down and dust proof)
  - UL Listed/NEMA Type 4X (corrosion proof, painted stainless steel)



**Optional Styles**

- Other UL Listed/NEMA Type 4X (corrosion proof) enclosure styles available (contact Technical Support for details):
  - Passivated Stainless Steel
  - 316 Stainless Steel

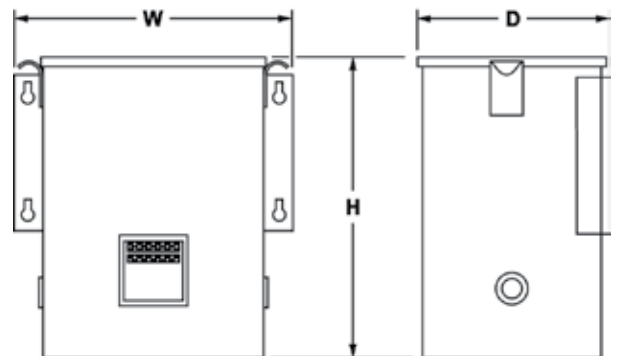
**Certifications and Compliances**

- cULus Listed: E77014 - Type HSZ
  - UL 5085-1, UL 5085-2
  - CSA C22.2 No. 66.1, No. 66.2
- RoHS Compliant

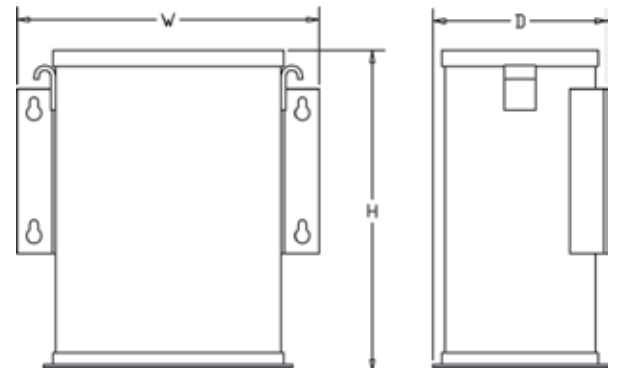
**Related Products**

- DIN Rail DC Power Supplies
- Constant Voltage Transformers

**Design Style 1 - Type 3R**



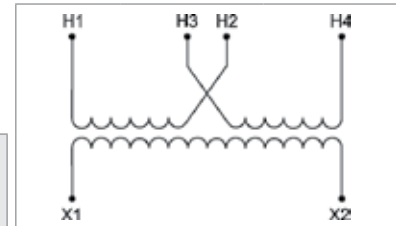
**Design Style 2 - Type 4, Type 4X, Type 12**



HSZ Series Selection Tables and Electrical Connections

Group 1 – 240/480, 230/460, 220/440 Volt Primary, 120/115/110 Volt Secondary, 50/60 Hz

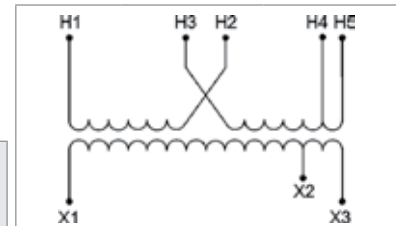
kVA	Catalog Number Type-3R	Catalog Number Type-4/12	Catalog Number Type-4X	Height in (mm)	Width in (mm)	Depth in (mm)	Approx. Ship Weight lbs (kg)
1	HZ1000	HZ12-1000	HZP4X-1000	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	43.0 (19.55)
1.5	HZ1500	HZ12-1500	HZP4X-1500	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	55.0 (25.00)
2	HZ2000	HZ12-2000	HZP4X-2000	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	68.0 (30.91)
3	HZ3000	HZ12-3000	HZP4X-3000	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	108.0 (49.09)
5	HZ5000	HZ12-5000	HZP4X-5000	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	138.0 (62.73)
7.5	HZ7500	HZ12-7500	HZP4X-7500	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	173.0 (78.64)
10	HZ10000	HZ12-10000	HZP4X-10000	17.00 (431.8)	17.00 (431.8)	12.00 (304.8)	210.0 (95.45)



Primary Voltage	Interconnect	Connect Lines to
480	H2-H3	H1 & H4
240	H1-H3, H2-H4	H1 & H4
Secondary Voltage	Interconnect	Connect Lines to
120	—	X1 & X2

Group 2 – 230/460/575 Volt Primary, 115/95 Volt Secondary, 50/60 Hz

kVA	Catalog Number Type-3R	Catalog Number Type-4/12	Catalog Number Type-4X	Height in (mm)	Width in (mm)	Depth in (mm)	Approx. Ship Weight lbs (kg)
1	HZ1000A	HZ12-1000A	HZP4X-1000A	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	43.0 (19.55)
1.5	HZ1500A	HZ12-1500A	HZP4X-1500A	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	55.0 (25.00)
2	HZ2000A	HZ12-2000A	HZP4X-2000A	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	68.0 (30.91)
3	HZ3000A	HZ12-3000A	HZP4X-3000A	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	108.0 (49.09)
5	HZ5000A	HZ12-5000A	HZP4X-5000A	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	138.0 (62.73)
7.5	HZ7500A	HZ12-7500A	HZP4X-7500A	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	173.0 (78.64)
10	HZ10000A	HZ12-10000A	HZP4X-10000A	17.00 (431.8)	17.00 (431.8)	12.00 (304.8)	210.0 (95.45)



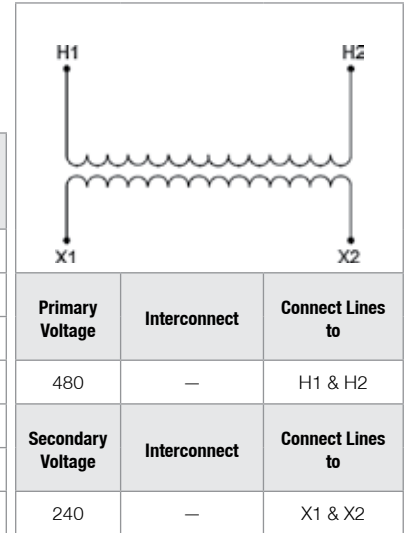
Primary Voltage	Interconnect	Connect Lines to
230	H1-H3, H2-H4	H1 & H4
460	H2-H3	H1 & H4
575	H2-H3	H1 & H5
Secondary Voltage	Interconnect	Connect Lines to
115	—	X1 & X3
95	—	X1 & X2

Note: Contact Technical Services for lead times, or for other enclosure types.

HSZ Series Selection Tables and Electrical Connections

Group 3 – 480 Volt Primary, 240 Volt Secondary, 50/60 Hz

kVA	Catalog Number Type-3R	Catalog Number Type-4/12	Catalog Number Type-4X	Height in (mm)	Width in (mm)	Depth in (mm)	Approx. Ship Weight lbs (kg)
1	HZ1000R	HZ12-1000R	HZP4X-1000R	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	43 (19.55)
1.5	HZ1500R	HZ12-1500R	HZP4X-1500R	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	55 (25.00)
2	HZ2000R	HZ12-2000R	HZP4X-2000R	12.00 (304.8)	10.00 (254.0)	7.00 (177.8)	68 (30.91)
3	HZ3000R	HZ12-3000R	HZP4X-3000R	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	108 (49.09)
5	HZ5000R	HZ12-5000R	HZP4X-5000R	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	138 (62.73)
7.5	HZ7500R	HZ12-7500R	HZP4X-7500R	17.00 (431.8)	14.00 (355.6)	9.00 (228.6)	173 (78.64)
10	HZ10000R	HZ12-10000R	HZP4X-10000R	17.00 (431.8)	17.00 (431.8)	12.00 (304.8)	210 (95.45)



Primary Fuse Recommendations

Primary Voltage													
V <sub>m</sub>	120	200	208	220	230	240	277	440	460	480	550	575	600
VA													
50	1.25 (2)	.75 (1.25)	.6 (1.13)	.6 (1.13)	.6 (1)	.6 (1)	.5 (.8)	.3 (.5)	.3 (.5)	.3 (.5)	.25 (.4)	.25 (.4)	.25 (.4)
75	1.8 (3)	1.13 (1.8)	1 (1.8)	1 (1.6)	.8 (1.6)	.8 (1.5)	.8 (1.25)	.5 (.8)	.4 (.8)	.4 (.75)	.4 (.6)	.3 (.6)	.3 (.6)
100	2.5 (4)	1.5 (2.5)	1.4 (2.25)	1.25 (2.25)	1.25 (2)	1.25 (2)	1 (1.8)	.6 (1.13)	.6 (1)	.6 (1)	.5 (.8)	.5 (.8)	.5 (.8)
150	3.5 (6.25)	2.25 (3.5)	2 (3.5)	2 (3.2)	1.8 (3.2)	1.8 (3)	1.6 (2.5)	1 (1.6)	.8 (1.6)	.8 (1.5)	.8 (1.25)	.75 (1.25)	.75 (1.25)
200	5 (8)	3 (5)	2.8 (4.5)	2.5 (4.5)	2.5 (4)	2.5 (4)	2 (3.5)	1.25 (2.25)	1.25 (2)	1.25 (2)	1 (1.8)	1 (1.5)	1 (1.6)
250	3 (5)	3.5 (6.25)	3.5 (6)	3.2 (5.6)	3.2 (5)	3 (5)	2.5 (4.5)	1.6 (2.8)	1.6 (2.5)	1.5 (2.5)	1.25 (2.25)	1.25 (2)	1.25 (2)
300	4 (6.25)	4.5 (7.5)	4 (7)	4 (6.25)	3.5 (6.25)	3.5 (6.25)	3.2 (5)	2 (3.2)	1.8 (3.2)	1.8 (3)	1.6 (2.5)	1.5 (2.5)	1.5 (2.5)
350	4.5 (7)	5 (8)	5 (8)	4.5 (7.5)	4.5 (7.5)	4 (7)	3.5 (6.25)	2.25 (3.5)	2.25 (3.5)	2 (3.5)	1.8 (3)	1.8 (3)	1.75 (2.5)
500	6.25 (10)	4 (6.25)	4 (6)	3.5 (5.6)	3.5 (5)	3 (5)	5 (9)	3.2 (5.6)	3.2 (5)	3 (5)	2.5 (4.5)	2.5 (4)	2.5 (4)
750	10 (15)	6.25 (9)	6 (9)	5.6 (8)	5 (8)	5 (7.5)	8 (12)	5 (8)	4.5 (8)	4.5 (7.5)	4 (6.25)	3.5 (6.25)	3.5 (6.25)
1000	12 (20)	8 (12)	8 (12)	7.5 (10)	7 (10)	6.25 (10)	10 (17.5)	3.5 (5.6)	3.6 (5)	3 (5)	5 (9)	5 (8)	5 (8)
1500	17.5 (30)	12 (15)	12 (15)	10 (15)	10 (15)	10 (15)	15 (25)	5.6 (8)	5 (8)	5 (7.5)	4.5 (6.25)	4.5 (6.25)	4.5 (6.25)
2000	25 (40)	15 (25)	15 (20)	15 (20)	12 (20)	12 (20)	20 (35)	7.5 (10)	7 (10)	6.25 (10)	6 (9)	5.6 (8)	5 (8)
3000	35 (60)	20 (35)	20 (35)	17.5 (30)	17.5 (30)	20 (30)	35 (50)	10 (15)	10 (15)	10 (15)	9 (12)	8 (12)	8 (12)
5000	60 (100)	35 (60)	30 (60)	30 (50)	30 (50)	30 (50)	60 (90)	15 (25)	15 (25)	15 (25)	12 (20)	12 (20)	12 (20)
7500	80 (150)	50 (90)	45 (90)	45 (80)	45 (80)	40 (70)	90 (125)	25 (40)	25 (40)	20 (35)	20 (30)		
10K	110 (200)	70 (125)	60 (110)	60 (110)	60 (110)	60 (100)	110 (175)	30 (50)	30 (50)	30 (50)	25 (45)		
15K	175 (300)	100 (175)	90 (175)	90 (150)	90 (150)	80 (150)	175 (250)	45 (80)	45 (80)	40 (70)	35 (60)		
25K	300 (500)	175 (300)	150 (300)	150 (250)	150 (250)	150 (250)	90 (250)	60 (70)	70 (125)	70 (125)	60 (110)		
37K						200 (350)				100 (175)			80 (150)
50K						300 (500)				150 (250)			110 (200)
75K						400 (750)				200 (350)			175 (300)
100K						600 (1000)				300 (500)			225 (400)
167K						900 (1600)				450 (850)			350 (650)

Fuse = I times 300% next size smaller if primary current is less than 2 amp. No secondary fusing required.  
 (Fuse) = (I\*500%) next size smaller if used for a motor control circuit per NEC 430.72 (C) (4).

Fuse = I times 167% next size smaller if primary current is less than 9 amp. No secondary fusing required.  
 (Fuse) = (I times 250%) next size smaller if primary current is less than 9 Amps. Secondary fusing is required see chart for size.

Fuse = I times 125% next size higher if primary current is 9 amp. or higher. No secondary fusing required.  
 (Fuse) = (I times 250%) next size smaller if primary current is 9 Amps. or higher. Secondary fusing is required see chart for size.

Recommended fuse sizes per UL 508 and NEC 450.3 (B), NEC 430.72 and commercially available type fuses.