



HPS UNIVERSAL™

Low Voltage
Lighting Transformer



Single Phase Low Voltage Lighting Transformer

For a cost effective approach to supply low voltage for recreational, lighting, light duty industrial and pool and spa applications or for a general purpose load including actuating relays, bells, control and low voltage circuits, these type 3R style encapsulated transformers are specifically designed for the following applications:

- General purpose applications used to adjust a supply voltage to match load equipment.
- Supplying machine tool circuits.
- Actuating relays, bells, signal and alarm systems.
- Operating small motors, valves and dampers.
- Industrial lighting and circuit isolation.
- Pool and spa (must be ordered in a type 4X stainless steel enclosure. Only available up to 1000VA as 60 Hz unit.)



HPS single phase encapsulated control transformers, with ratings from 50VA up to 5000VA in three voltage ratings, feature the newest technology and manufacturing processes.



Standard Specification

	50 - 1000 VA	1500 to 5000 VA
UL Listed:	File: E50394	File: E50394
CSA Certified:	File: LR3902	File: LR3902
Frequency:	50/60 Hz	50/60 Hz
Insulation System:	130°C (80°C rise)	180°C (115°C rise)
Standard Design:	Single phase, welded core construction made with high quality, high permeability silicon steel laminations. Computer designed coils are accurately wound from high quality copper magnetic wire.	Single phase, welded core construction made with high quality, high permeability silicon steel laminations. Computer designed coils are accurately wound from high quality copper magnetic wire.
Encapsulation:	All units are encapsulated with electrical grade silica sand and resin compounds	All units from 50VA to 5kVA are encapsulated with electrical grade silica sand and resin compounds
Enclosure Type:	Heavy duty encapsulated type 3R optional type 4, 4X (stainless) & 12 available	Heavy duty encapsulated type 3R optional type 4, 4X (stainless) & 12 available
Enclosure Finish:	ANSI 61 Grey, UL50	ANSI 61 Grey, UL50
Termination:	Front accessible separate high and low voltage lead wires or copper tabs	Front accessible separate high and low voltage lead wires or copper tabs
Conduit Knock-Outs:	Side and rear standard on all units (no knock-outs on Stainless Steel enclosures)	Side and rear standard on all units (no knock-outs on Stainless Steel enclosures)
Mounting:	Standard Wall Mounting	Standard Wall Mounting

SINGLE PHASE SPECIFICATION TABLES

Group A



120 X 240 PRIMARY VOLTS

12 X 24 SECONDARY VOLTS

50/60 HZ

VA	Catalog Number	Case Style	Approx. Dimensions Inches [mm]			Approx. Weight Lbs. [kg]	Mtg Type W - Wall
			Width	Depth	Height		
50	QC05ERCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	6 [3.2]	W
100	QC10ERCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	7 [3.2]	W
150	QC15ERCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	8 [3.6]	W
200	QC20ERCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	11 [5.0]	W
250	QC25ERCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	13 [5.9]	W
350	QC35ERCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	14 [6.3]	W
500	QC50ERCB	NQ2	5.06 [128.53]	4.56 [115.83]	9.30 [236.22]	15 [6.8]	W
750	QC75ERCB	NQ2	5.06 [128.53]	4.56 [115.83]	9.30 [236.22]	18 [8.1]	W
1000	Q1C0ERCB	NQ3	5.88 [149.36]	5.19 [131.83]	10.56 [268.23]	25 [11.3]	W
1500	Q1C5ERCF	NQ4	7.06 [179.33]	6.25 [158.75]	11.75 [298.45]	36 [16.2]	W
2000	Q002ERCF	NQ4	7.06 [179.33]	6.25 [158.75]	11.75 [298.45]	46 [20.7]	W
3000	Q003ERCF	NQ5	10.00 [254.00]	7.75 [196.85]	17.25 [438.15]	65 [29.3]	W
5000	Q005ERCF	NQ5	10.00 [254.00]	7.75 [196.85]	17.25 [438.15]	105 [48]	W

Group B

120 X 240 PRIMARY VOLTS

16 X 32 SECONDARY VOLTS

50/60 HZ

VA	Catalog Number	Case Style	Approx. Dimensions Inches [mm]			Approx. Weight Lbs. [kg]	Mtg Type W - Wall
			Width	Depth	Height		
50	QC05ESCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	6 [3.2]	W
100	QC10ESCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	7 [3.2]	W
150	QC15ESCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	8 [3.6]	W
200	QC20ESCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	11 [5.0]	W
250	QC25ESCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	13 [5.9]	W
350	QC35ESCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	14 [6.3]	W
500	QC50ESCB	NQ2	5.06 [128.53]	4.56 [115.83]	9.30 [236.22]	15 [6.8]	W
750	QC75ESCB	NQ2	5.06 [128.53]	4.56 [115.83]	9.30 [236.22]	18 [8.1]	W
1000	Q1C0ESCB	NQ3	5.88 [149.36]	5.19 [131.83]	10.56 [268.23]	25 [11.3]	W
1500	Q1C5ESCF	NQ4	7.06 [179.33]	6.25 [158.75]	11.75 [298.45]	36 [16.2]	W
2000	Q002ESCF	NQ4	7.06 [179.33]	6.25 [158.75]	11.75 [298.45]	46 [20.7]	W
3000	Q003ESCF	NQ5	10.00 [254.00]	7.75 [196.85]	17.25 [438.15]	65 [29.3]	W
5000	Q005ESCF	NQ5	10.00 [254.00]	7.75 [196.85]	17.25 [438.15]	105 [48]	W

Group C

240 X 480 PRIMARY VOLTS

24 X 48 SECONDARY VOLTS

50/60 HZ

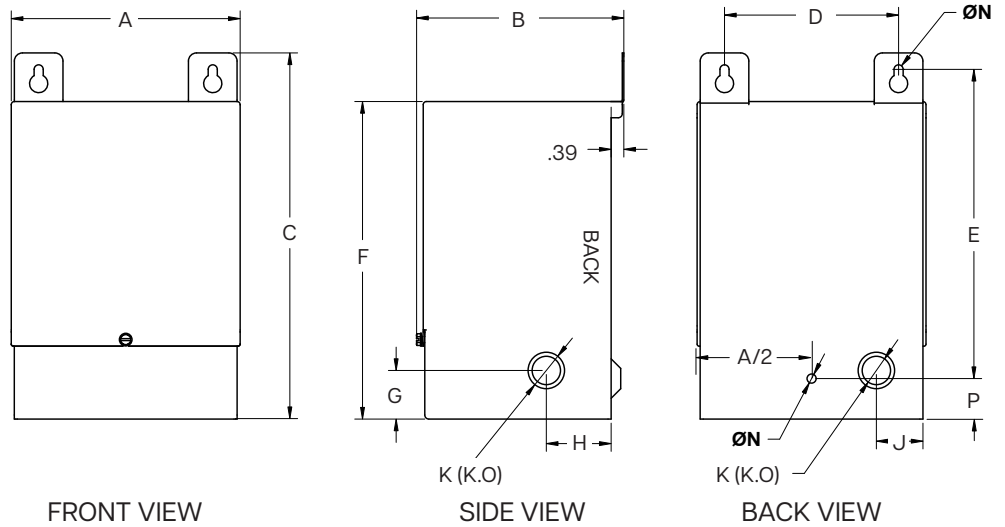
VA	Catalog Number	Case Style	Approx. Dimensions Inches [mm]			Approx. Weight Lbs. [kg]	Mtg Type W - Wall
			Width	Depth	Height		
50	QC05DTCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	6 [3.2]	W
100	QC10DTCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	7 [3.2]	W
150	QC15DTCB	NQ0	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	8 [3.6]	W
200	QC20DTCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	11 [5.0]	W
250	QC25DTCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	13 [5.9]	W
350	QC35DTCB	NQ1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	14 [6.3]	W
500	QC50DTCB	NQ2	5.06 [128.53]	4.56 [115.83]	9.30 [236.22]	15 [6.8]	W
750	QC75DTCB	NQ2	5.06 [128.53]	4.56 [115.83]	9.30 [236.22]	18 [8.1]	W
1000	Q1C0DTCB	NQ3	5.88 [149.36]	5.19 [131.83]	10.56 [268.23]	25 [11.3]	W
1500	Q1C5DTCF	NQ4	7.06 [179.33]	6.25 [158.75]	11.75 [298.45]	36 [16.2]	W
2000	Q002DTCF	NQ4	7.06 [179.33]	6.25 [158.75]	11.75 [298.45]	46 [20.7]	W
3000	Q003DTCF	NQ5	10.00 [254.00]	7.75 [196.85]	17.25 [438.15]	65 [29.3]	W
5000	Q005DTCF	NQ5	10.00 [254.00]	7.75 [196.85]	17.25 [438.15]	105 [48]	W

ENCLOSURE DRAWINGS

TYPE 3R ENCLOSURE DIMENSIONAL DRAWINGS

NQ' Series Enclosures

Figure 1

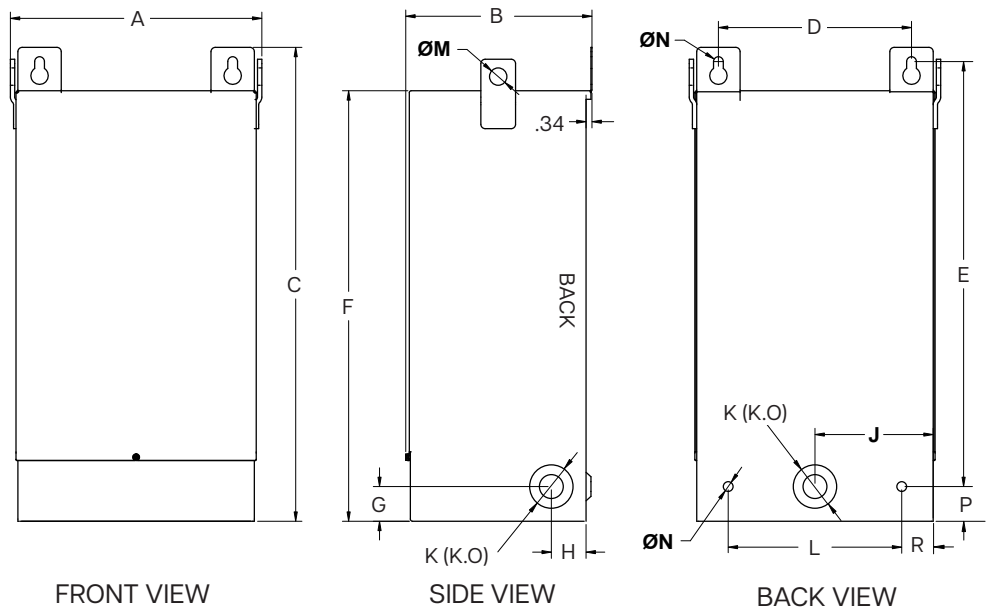


VA	Fig #	Dimensions in Inches [mm]														
		A	B	C	D	E	F	G	H	J	K1	L	M	N	P	R
NQ0	1	3.69 [93.73]	5.06 [128.53]	7.19 [182.63]	2.50 [63.50]	5.63 [143.01]	6.19 [157.23]	1.50 [38.10]	2.00 [50.80]	--	0.88 [22.36]	--	--	0.22 [5.59]	1.25 [31.75]	--
NQ1	1	4.31 [109.48]	5.56 [141.23]	7.19 [182.63]	3.13 [79.51]	5.63 [143.01]	6.13 [155.71]	1.50 [38.10]	2.00 [50.80]	0.81 [20.58]	0.88 [22.36]	--	--	0.22 [5.59]	1.25 [31.75]	--
NQ2	1	5.06 [128.53]	4.56 [115.83]	9.30 [236.22]	3.88 [98.56]	7.75 [196.85]	8.30 [210.82]	1.50 [38.10]	2.00 [50.80]	1.00 [25.40]	88 X 1.13 X 1.38 [22.36 X 28.71 X 35.06]	--	--	0.22 [5.59]	1.25 [31.75]	--
NQ3	1	5.88 [149.36]	5.19 [131.83]	10.56 [268.23]	4.13 [104.91]	8.31 [211.08]	9.06 [230.13]	1.50 [38.10]	2.00 [50.80]	1.25 [31.75]	88 X 1.13 X 1.38 [22.36 X 28.71 X 35.06]	--	--	0.28 [7.12]	1.25 [31.75]	--
NQ4	1	7.06 [179.33]	6.25 [158.75]	11.75 [298.45]	5.38 [136.66]	10.00 [254.00]	10.30 [261.62]	1.75 [44.45]	2.00 [50.80]	1.50 [38.10]	88 X 1.13 X 1.38 [22.36 X 28.71 X 35.06]	--	--	0.28 [7.12]	1.25 [31.75]	--
NQ5	2	10.00 [254.00]	7.75 [196.85]	17.25 [438.15]	7.38 [187.46]	15.38 [390.66]	15.25 [387.35]	2.38 [60.33]	2.00 [50.80]	4.00 [101.60]	1.13 X 1.38 [28.71 X 35.06]	6.00 [152.40]	0.75 [19.05]	0.44 [11.18]	1.25 [31.75]	1.68 [42.68]

¹Knockout (K) sizes are actual diameters of knockout, not conduit sizes. Refer to table on page 16 for conduit sizes

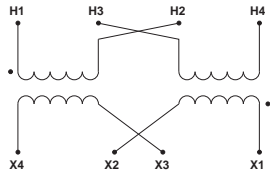
Optional stainless steel enclosures are available

Figure 2



SCD 1

SCHEMATIC



CONNECTIONS

Primary Volts				Connect lines to	Inter-connect
240	480	416		H1, H4	H2-H2
120	240	208		H1, H4	H1-H3, H2-H4
Secondary Volts				Connect lines to	Inter-connect
24	32	48	240	X1, X4	X2-X3
12/24	16/32	24/48	120/240	X1, X2, X4	X2-X3
12	16	24	120	X1, X2	X2-X4, X1-X3

Conduit Size vs. Actual Knockout Size Reference Table

Standard Conduit Size*	Actual Knockout Diameter*
1/2" [12.7]	7/8" [22.22]
3/4" [19.05]	1 1/8" [28.57]
1" [25.4]	1 3/8" [28.82]
1 1/4" [31.75]	1 3/4" [44.45]
1 1/2" [38.1]	2" [50.8]
2" [50.8]	2 1/2" [63.5]
2 1/2" [60.96]	3" [76.2]
3" [76.2]	3 5/8" [92.07]
3 1/2" [88.9]	4 1/8" [104.77]

*Dimensions in Inches [mm]

Please note the above table is not applicable for Stainless Steel enclosure



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UNIVOP-BBH2-EN
March 2024

Distributed by Gross Automation | +1 (262) 252-1600 | sales@grossautomation.com