

## HPS Titan<sup>®</sup> Encapsulated Transformers for Harsh Environments

power to perform

# HPS Titan<sup>®</sup>

## Encapsulated Transformers for Harsh Environments

The HPS Titan<sup>®</sup> line of transformers have been designed for installation in harsh environments where efficiency and performance are key. Typical applications include institutional, commercial, industrial, petrochemical, marine, mining, etc. HPS Titan<sup>®</sup> designs provide:

- **Superior Performance**
- **Compact Efficient Design**
- **Easy Installation and Hook-up**

HPS Titan<sup>®</sup> Series transformers are UL Listed for "Class 1, Division 2, Groups A, B, C, D and Class I, Zone 2, Group IIC, T3 Hazardous Locations" and also meet ABS Type Approval for "Marine Duty Service and Offshore Applications - Electrical Distribution and Propulsion". With a North American Temperature Classification of T3C/T3A, the HPS Titan Series will remain cool under load.

### HPS TITAN<sup>®</sup> Single Phase



### HPS TITAN<sup>®</sup> Three Phase\*



## APPLICATIONS



Petrochemical



Marine



Industrial



Oil & Gas



Mining



Wastewater

## APPROVALS

- ANSI/ISA 12.12.10 - File No. E258346 (Class 1, Division 2, Groups A, B, C, D and Class I, Zone 2, Group IIC, T3 Hazardous Locations) - T3C/T3A Temperature Classification
- UL 5085-1 and UL5085-2 Listed - File No. E258346
- UL Certificate No. 04-HS435190/1-PDA
- ABS Type Approval (Marine Duty Service and Offshore Applications)



## HPS TITAN® STANDARD FEATURES

Features	Single Phase	Three Phase*
<b>Voltage Groups</b>	5 standard voltage groups	5 standard voltage groups
<b>Ratings</b>	0.5 kVA to 37.5 kVA	2 kVA to 150 kVA
<b>Frequency</b>	60 Hz (50/60 Hz on units with 380V primary)	60 Hz (50/60 Hz on units with 380V primary)
<b>Electrostatic Shield</b>	Optional on 0.50 kVA Standard on 0.75 kVA to 37.5 kVA	Standard on all units
<b>Encapsulated</b>	All units are encapsulated with electrical grade silica sand and resin compounds	
<b>Enclosure</b>	Heavy Duty Type 3R Optional Type 4, 4X (stainless steel) and 12	Heavy Duty Type 3R Optional Type 4, 4X (stainless steel) and 12 Optional gasket kit
<b>Terminations</b>	Front accessible separated high and low voltage lead wires or copper tabs	Top accessible separate high and low voltage lead wires or copper tabs
<b>Insulation System</b>	130°C (80°C rise) up to 1 kVA - standard 180°C (115°C rise) 1.5 kVA to 37.5 kVA - standard 180°C (80°C rise) 1.5 kVA to 37.5 kVA - optional	130°C (80°C rise) up to 5 kVA - standard 180°C (115°C rise) 6 kVA to 150 kVA 180°C (80°C rise) 6 kVA to 150 kVA - optional
<b>Mounting</b>	Standard wall mounting with keyhole mounting slots. Lifting provisions standard from 5 kVA to 37.5 kVA.	Standard wall mounting with keyhole mounting slots 2 kVA to 15 kVA (Optional wall mounting kit available for 30 kVA and 45 kVA). Floor Mounted 25 kVA to 150 kVA. Lifting provisions standard on 6 kVA to 150 kVA.
<b>Conduit Knockouts</b>	For rear and side entry into an easily accessible and spacious wiring compartment.	
<b>Approvals</b>	ANSI/ISA 12.12.10 - File No. E258346 (Class 1, Division 2, Groups A, B, C, D, and Class I, Zone 2, Group IIC, T3 Hazardous Locations) T3C Temperature Classification for 80°C rise units T3A Temperature Classification for 115°C rise units UL 5085-1 and UL5085-2 Listed - File No. E258346 UL Certificate No. 04-HS435190/1-PDA (Marine Duty Service and Offshore Applications) ABS Type Approval	
<b>Warranty</b>	All HPS standard catalog encapsulated transformers come with a 10 year limited warranty (Please refer to the HPS standard Catalog Transformer Products Warranty for full details)	

**\*HPS Titan (three phase only) will become obsolete by mid 2019 and is replaced by HPS Titan N. Please visit the HPS website for more information on HPS Titan N.**

## OPTIONS AND ACCESSORIES

The following options and accessories are available on all standard and custom three phase encapsulated hazardous location transformers.

### Optional Type 4/12 Gasket Kits

Previously ordered three phase HPS Titan® encapsulated transformers in standard Type 3R rated NQT enclosures can easily be converted to a Type 4 or 12 rating by ordering and installing the appropriate gasket kit as listed in the table on page 6.

### Optional Stainless Steel Enclosure

Optional Type 4 rated NQT stainless steel enclosures are identical to the standard steel enclosure designs, but are designed using Type 316 stainless steel in accordance with ANSI, NEMA, UL and ABS requirements for indoor, outdoor and marine duty applications. If your application calls for a HPS Titan® Series unit in a stainless steel enclosure, just add the suffix '7' to the end of the standard HPS part number. (e.g. P045KBKF is a standard unit. For stainless steel change the part number to P045KBKF7.)

### SINGLE PHASE PRODUCT SPECIFICATIONS

208/240/277V Primary, 120/240V Sec. 60 Hz

kVA Rating	Catalog Number	Case Style	Approx. Weight
0.50	QC50YECB	NQ2	19
0.75	QC75YEKB	NQ2	21
1	Q1C0YEKF	NQ3	28
1.5	Q1C5YEKF	NQ3	36
2	Q002YEKF	NQ4	44
3	Q003YEKF	NQ4	56
5	Q005YEKF	NQ5	134
7.5	Q007YEKF	NQ5	160
10	Q010YEKF	NQ6	204
15	Q015YEKF	NQ6	248
25	Q025YEKF	NQ7	345
37.5	Q037YEKF	NQ8	476

600V Primary, 120/240V Sec. 60 Hz

kVA Rating	Catalog Number	Case Style	Approx. Weight
0.50	QC50PECB	NQ2	15
0.75	QC75PEKB	NQ2	18
1	Q1C0PEKF	NQ3	27
1.5	Q1C5PEKF	NQ3	31
2	Q002PEKF	NQ4	40
3	Q003PEKF	NQ4	52
5	Q005PEKF	NQ5	114
7.5	Q007PEKF	NQ5	129
10	Q010PEKF	NQ6	197
15	Q015PEKF	NQ6	234
25	Q025PEKF	NQ7	285
37.5	Q037PEKF	NQ8	454

347/380V Primary, 120/240V Sec. 50/60 Hz

kVA Rating	Catalog Number	Case Style	Approx. Weight
0.50	QC50FECB	NQ2	18
0.75	QC75FEKB	NQ2	20
1	Q1C0FEKB	NQ3	26
1.5	Q1C5FEKF	NQ3	36
2	Q002FEKF	NQ4	55
3	Q003FEKF	NQ5	88
5	Q005FEKF	NQ5	130
7.5	Q007FEKF	NQ6	185
10	Q010FEKF	NQ6	155
15	Q015FEKF	NQ6	248
25	Q025FEKF	NQ7	345
37.5	Q037FEKF	NQ8	476

Export\* Primary, 120/240V Sec. 50/60 Hz

kVA Rating	Catalog Number	Case Style	Approx. Weight
0.50	QC50XECB	NQ2	15
0.75	QC75XEKB	NQ2	20
1	Q1C0XEKB	NQ3	32
1.5	Q1C5XEKF	NQ3	35
2	Q002XEKF	NQ4	54
3	Q003XEKF	NQ5	105
5	Q005XEKF	NQ5	138
7.5	Q007XEKF	NQ6	189
10	Q010XEKF	NQ6	222
15	Q015XEKF	NQ7	300
25	Q025XEKF	CF	CF
37.5	Q037XEKF	CF	CF

CF = consult factory

240 X 480V Primary, 120/240V Sec. 60 Hz

kVA Rating	Catalog Number	Case Style	Approx. Weight
0.50	QC50LECB	NQ2	23
0.75	QC75LEKB	NQ2	24
1	Q1C0LEKB	NQ3	28
1.5	Q1C5LEKF	NQ3	35
2	Q002LEKF	NQ4	47
3	Q003LEKF	NQ4	62
5	Q005LEKF	NQ5	131
7.5	Q007LEKF	NQ5	155
10	Q010LEKF	NQ6	220
15	Q015LEKF	NQ6	248
25	Q025LEKF	NQ7	345
37.5	Q037LEKF	NQ8	476

\*Export = 190/200/208/220/240<sup>1</sup> X 380/400/415/440/480<sup>1</sup> Primary Volts

Note 1: The primary voltage ratio of 240 or 480 is available at 60Hz only with secondary voltage of approximately 130/262V.

Note: For shielded units 0.50 kVA, replace the suffix "CB" with a "KB"

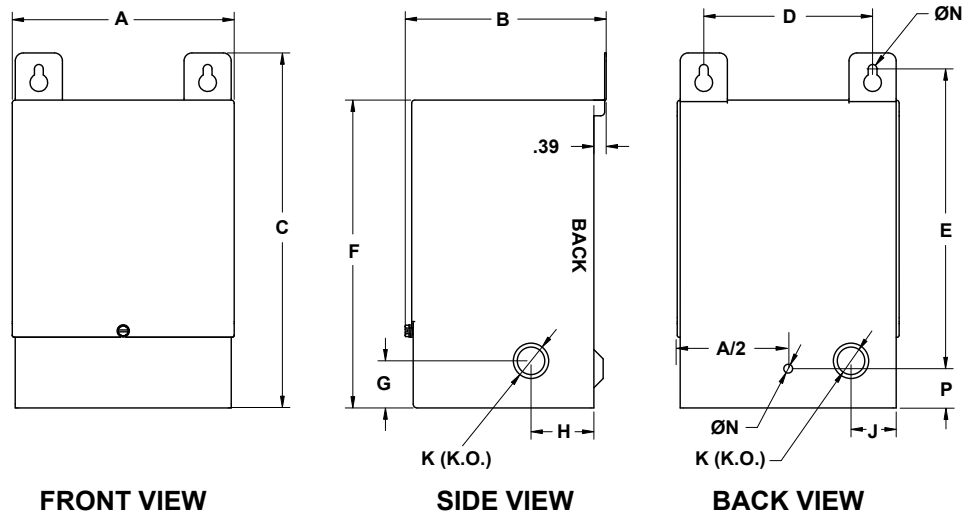
Units ending with letter "B" are 80°C rise

Units ending with letter "F" are 115°C rise; 80°C rise optional replace end suffix "F" with "B"

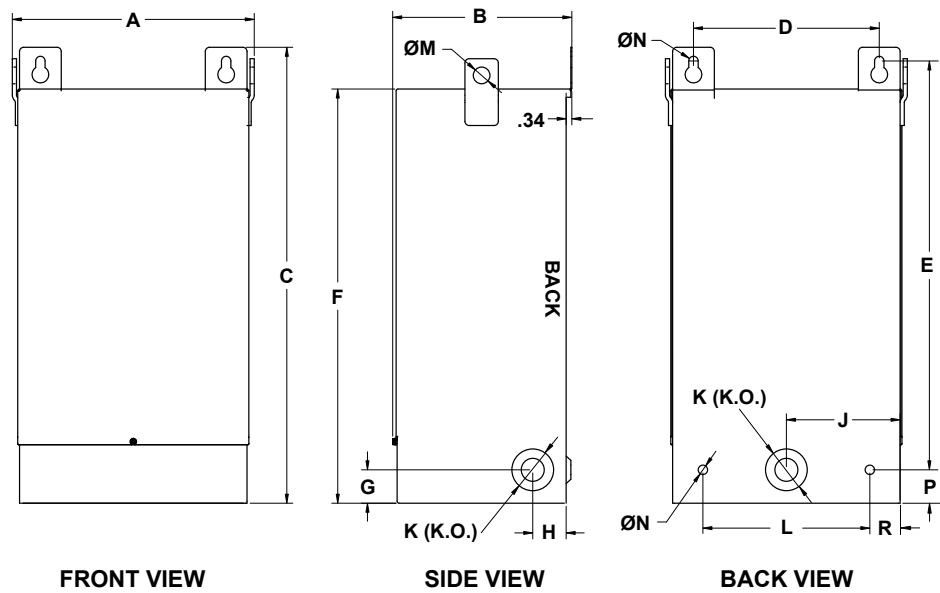
80°C rise units are T3C; 115°C rise units are T3A.

## SINGLE PHASE ENCLOSURE DRAWINGS AND DIMENSIONS

**Figure 1**



**Figure 2**



Case Style	Fig #	A	B	C	D	E	F	G	H	J	K <sup>1</sup>	L	M	N	P	R
NQ0	1	3.69	5.06	7.19	2.50	5.63	6.19	1.50	2.00	--	0.88	--	--	0.22	1.25	--
NQ1	1	4.31	5.56	7.19	3.13	5.63	6.13	1.50	2.00	0.81	0.88	--	--	0.22	1.25	--
NQ2	1	5.06	4.56	9.30	3.88	7.75	8.30	1.50	2.00	1.00	0.88 X 1.13 X 1.38	--	--	0.22	1.25	--
NQ3	1	5.88	5.19	10.56	4.13	8.31	9.06	1.50	2.00	1.25	0.88 X 1.13 X 1.38	--	--	0.28	1.25	--
NQ4	1	7.06	6.25	11.75	5.38	10.00	10.30	1.25	2.00	1.50	0.88 X 1.13 X 1.38	--	--	0.28	1.25	--
NQ5	2	10.00	7.75	17.25	7.38	15.38	15.25	2.375	2.00	4.00	1.13 X 1.38	6.00	0.75	0.44	1.25	1.68
NQ6	2	12.25	9.25	20.88	9.38	18.13	18.88	2.00	2.00	5.00	1.38 X 2.50	8.00	0.75	0.44	2.00	1.68
NQ7	2	14.50	10.75	21.38	11.63	18.63	19.38	2.00	2.00	6.00	1.38 X 2.50	10.00	0.75	0.44	2.00	1.81
NQ8	2	14.50	10.75	27.38	11.13	24.50	24.88	2.00	2.00	6.00	1.38 X 2.50	10.00	0.75	0.56	2.00	1.81

<sup>1</sup>Knockout (K) sizes are actual diameter of knockout, not conduit sizes

Optional stainless steel enclosures are available

### THREE PHASE PRODUCT SPECIFICATIONS

**480V Primary, 208Y/120V Sec. 60Hz**

kVA Rating	Catalog Number	Case Style	Approx. Weight
2	P002KBKB	NQT3	49
3	P003KBKB	NQT3	86
6	P006KBKF	NQT4	160
9	P009KBKF	NQT5	262
15	P015KBKF	NQT6	304
30	P030KBKF	NQT7	478
45	P045KBKF	NQT8	642
75	P075KBKF	NQT9	1450
112.5	P112KBKF	NQT10	2100
150	P150KBKF	NQT11	2650

**600V (Y) Primary, 240V (D) Sec. 60Hz**

kVA Rating	Catalog Number	Case Style	Approx. Weight
2	P002PDKB	NQT3	51
3	P003PDKB	NQT3	68
6	P006PDKF	NQT4	146
9	P009PDKF	NQT5	211
15	P015PDKF	NQT6	270
30	P030PDKF	NQT7	515
45	P045PDKF	NQT8	740
75	P075PDKF	NQT9	CF
112.5	P112PDKF	NQT10	CF
150	P150PDKF	NQT11	CF

CF = consult factory

**480V(D) Primary, 240V(D) Sec. 60Hz**

kVA Rating	Catalog Number	Case Style	Approx. Weight
2	P002KDKB	NQT3	52
3	P003KDKB	NQT3	68
6	P006KDKF	NQT4	182
9	P009KDKF	NQT5	250
15	P015KDKF	NQT6	312
30	P030KDKF	NQT7	540
45	P045KDKF	NQT8	650
75	P075KDKF	NQT9	1230
112.5	P112KDKF	NQT10	2100
150	P150KDKF	NQT11	2650

**600, 480V Primary, 480Y/277V Sec. 60Hz**

kVA Rating	Catalog Number	Case Style	Approx. Weight
2	P002QKKB	NQT3	65
3	P003QKKB	NQT3	69
6	P006QKKF	NQT4	190
9	P009QKKF	NQT5	270
15	P015QKKF	NQT7	380
30	P030QKKF	NQT7	472
45	P045QKKF	NQT8	680
75	P075QKKF	NQT9	1650
112.5	P112QKKF	NQT10	CF
150	P150QKKF	NQT11	CF

CF = consult factory

**600V Primary, 208Y/120V Sec. 60Hz**

kVA Rating	Catalog Number	Case Style	Approx. Weight
2	P002PBKB	NQT3	85
3	P003PBKB	NQT3	94
6	P006PBKF	NQT4	146
9	P009PBKF	NQT5	211
15	P015PBKF	NQT6	340
30	P030PBKF	NQT7	605
45	P045PBKF	NQT8	770
75	P075PBKF	NQT9	1350
112.5	P112PBKF	NQT10	3150
150	P150PBKF	NQT11	3200

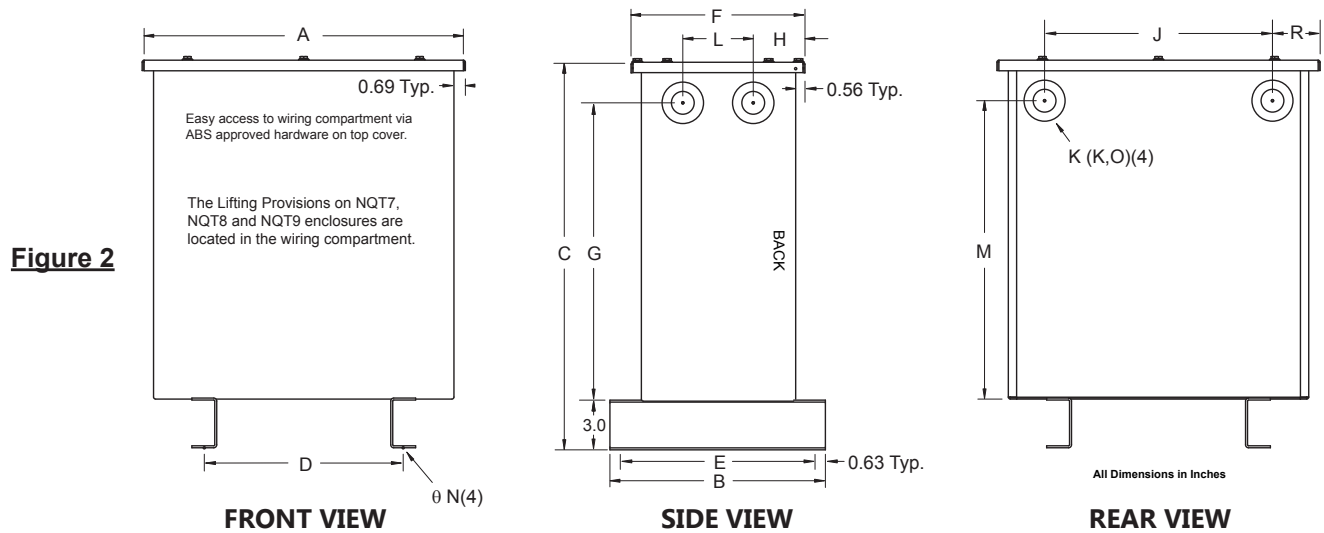
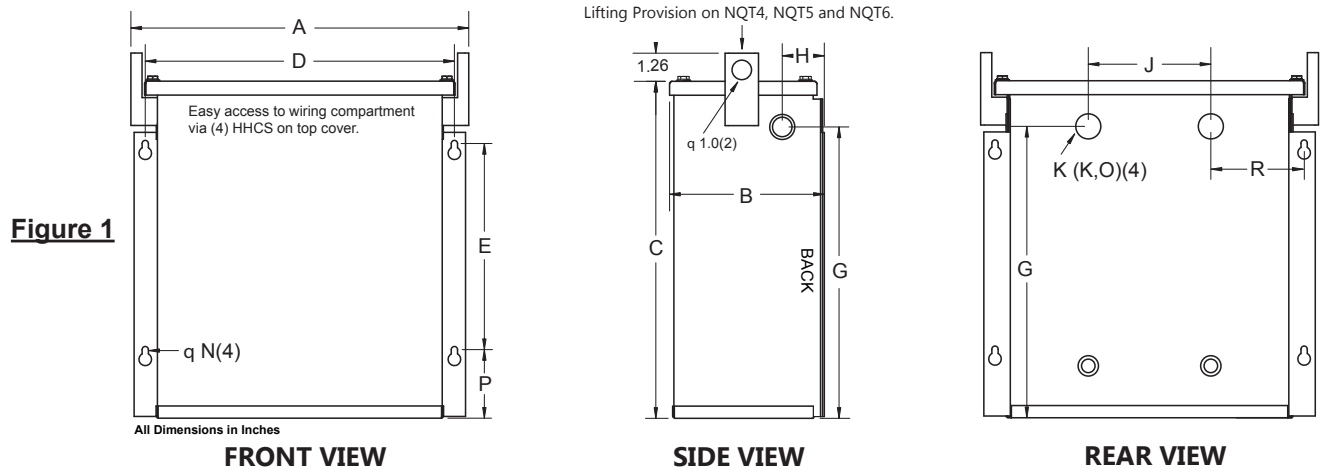
### OPTIONAL GASKET KITS SELECTION TABLE

Enclosure Case Style	Gasket Kit P/N
NQT3	NQT3GK
NQT4	NQT4GK
NQT5	NQT5GK
NQT6	NQT6GK
NQT7	NQT7GK
NQT8	NQT8GK
NQT9	NQT9GK
NQT10	NQT10GK
NQT11	NQT11GK

*Note:* Units ending with letter "B" are 80°C rise  
 Units ending with letter "F" are 115°C rise; 80°C rise optional replace end suffix "F" with "B"  
 80°C rise units are T3C; 115°C rise units are T3A.



## THREE PHASE ENCLOSURE DRAWINGS AND DIMENSIONS



Case Style	Fig #	A	B	C	D	E	F	G	H	J	K <sup>1</sup>	L	M	N	P	R
NQT2	1	9.38	4.94	8.63	8.38	4.00	--	7.06	2.38	4.50	0.88 X 1.13	--	--	0.28	1.81	2.44
NQT3	1	12.38	5.44	11.13	11.38	6.50	--	9.50	2.38	5.50	0.88 X 1.13	--	--	0.28	1.81	3.44
NQT4	1	15.19	6.94	15.13	13.88	9.25	--	13.56	1.88	5.50	0.88 X 1.13	--	--	0.28	3.06	4.19
NQT5	1	16.63	10.25	16.63	14.50	8.25	--	13.88	2.69	10.00	1.38 X 1.75	--	--	0.41	4.50	2.25
NQT6	1	19.25	10.44	16.63	17.50	8.25	--	13.56	2.69	12.50	1.38 X 2.50	--	--	0.41	4.50	2.50
NQT7	2	20.25	13.00	23.38	12.00	11.75	11.38	17.94	2.50	13.75	1.38 X 2.50	4.25	17.94	0.56	--	2.13
NQT8	2	22.25	13.00	28.38	14.00	11.75	11.38	21.94	2.50	15.75	1.38 X 2.50	4.25	21.94	0.56	--	2.13
NQT9	2	31.25	16.00	29.88	18.00	14.75	14.13	23.94	2.75	22.75	2.00 X 3.00	6.50	23.94	0.56	--	3.13
NQT10	2	38.44	26.00	39.13	23.50	24.00	20.80	32.50	6.40	24.75	2.50 X 3.63	8.00	32.50	0.69	--	6.84
NQT11	2	37.38	30.00	45.63	23.50	28.00	22.00	39.00	6.95	24.75	2.50 X 3.63	8.00	39.00	0.69	--	6.31

<sup>1</sup>Knockout (K) sizes are actual diameter of knockout, not conduit sizes

Optional stainless steel enclosures are available



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