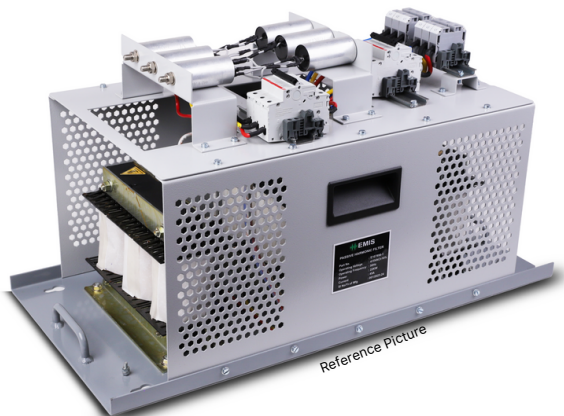




DATASHEET

Passive Harmonic filter With 8% DC-Link Choke_TPQH331I

Passive harmonic filter designed and manufactured to provide an economical solution in harmonic mitigation in Power Systems by maintaining THID in compliance with current and voltage requirements of IEEE 519. They increase the reliability and service life of electric installations, help utilize electric system capacity better, and are the key to meeting Power Quality standards

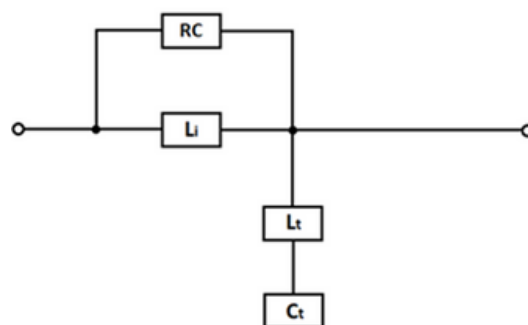
Features:

- Increases system efficiency and equipment life
- Reduces losses
- Eliminates nuisance tripping
- High attenuation of individual harmonics
- Improves reliability of the system

Applications:

- Motor Drives
- Factory automation Equipment
- Waste water treatment facilities.
- Fan & pump applications
- HVAC
- Mission-Critical processes
- DC Fast Chargers

Type Circuit Diagram:



Passive harmonic filter for rectifiers with DC-Link Choke & with EMI Filter

Technical Specifications:

Operating Voltage	: 3x380VAC to 415 VAC $\pm$ 10 %
Operating Frequency	: 50Hz
Type	: 3 Phase 3 Wire
Nominal motor drive input power rating	: 1.1 kW to 250 kW
Total harmonic current distortion THDi*	: As per IEEE 519
Efficiency	: >98% for rated voltage and power
Overload capability	: 1.6x rated current for 1 minute, once per hour
High potential test voltage	: P -> E 2160VAC (1 s)
Operational Temperature range	: -25°C to +45°C
Cooling	: External Cooling

Earthing System	: TN, TT, IT
Protection Category	: IP00
Flammability corresponding to	: UL 94 V-0
Design corresponding to	: Filter: UL 61800-5-1, Chokes: EN 61558-2-20, UL508
Derating factor	: $I_{derated} = I_{nominal} * \sqrt{(70^{\circ}\text{C} - T_{amb})/25^{\circ}\text{C}}$

*** NOTE:**

- System Requirements: THDv<2%, Line Voltage unbalance < 1%
- Performance specifications in this brochure refer to six-pulse diode rectifiers
- SCR rectifier front-ends will produce different Results, depend upon firing angle of the Thyristors
- This product must be used along with LDC or LAC Load Reactor as mentioned in Ordering Code Information.

Ordering Information

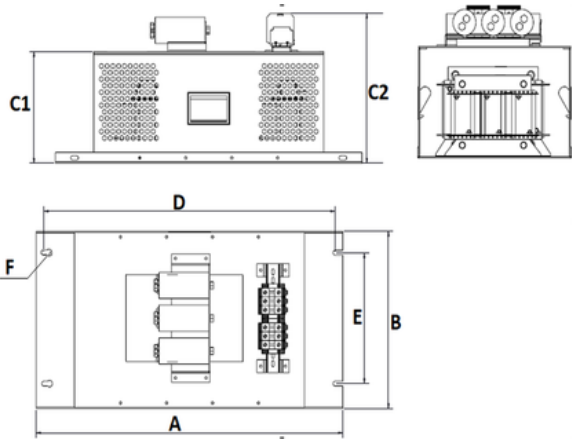
Model Number	Par Number	Rated Load Power [kW] @ 400VAC	Motor Drive Input current (A) *	Rated filter Input current (A)	Min. Required LDC (mH) **	Min. Required LAC (mH) **	Termination	Min. Weight (Kgs)
TPQH3311-1.62-2	E105642-1	1.1	1.7	1.62	37.66	9.98	Connector – 4mm ²	7
TPQH3311-3.23-2	E105643-1	2.2	3.4	3.23	18.81	6.05	Connector – 4mm ²	10
TPQH3311-5.9-2	E105644-1	4	6.2	5.9	10.32	3.56	Connector – 6mm ²	13
TPQH3311-8.1-2	E105645-1	5.5	8.5	8.1	7.52	2.59	Connector – 6mm ²	17
TPQH3311-11-2	E105646-1	7.5	12	11	5.51	1.84	Connector – 6mm ²	20
TPQH3311-16-2	E105647-1	11	17	16	3.76	1.3	Connector – 16mm ²	26
TPQH3311-22-2	E105648-1	15	23	22	2.75	0.96	Connector – 16mm ²	30
TPQH3311-28-2	E105649-1	19	29	28	2.18	0.76	Connector – 16mm ²	33
TPQH3311-32-2	E105650-1	22	34	32	1.88	0.65	Connector – 35mm ²	42
TPQH3311-44-2	E105651-1	30	46	44	1.37	0.48	Connector – 35mm ²	46
TPQH3311-54-2	E105652-1	37	57	54	1.12	0.39	Connector – 35mm ²	54
TPQH3311-66-2	E105653-1	45	70	66	0.92	0.32	Connector – 35mm ²	68
TPQH3311-81-2	E105654-1	55	85	81	0.75	0.26	Connector – 50mm ²	69
TPQH3311-110-2	E105655-1	75	116	110	0.55	0.19	Connector – 50mm ²	110
TPQH3311-133-2	E105656-1	90	140	133	0.46	0.16	Connector – 50mm ²	120
TPQH3311-162-3	E105657-1	110	171	162	0.37	0.13	Busbar – 30x5	136
TPQH3311-195-3	E105658-1	132	205	195	0.31	0.11	Busbar – 40x5	156
TPQH3311-238-3	E105659-1	160	249	238	0.26	0.09	Busbar – 40x5	180
TPQH3311-297-3	E105660-1	200	312	297	0.21	0.07	Busbar – 50x5	180
TPQH3311-376-3	E105661-1	250	392	376	0.17	0.06	Busbar – 50x8	265

NOTE:

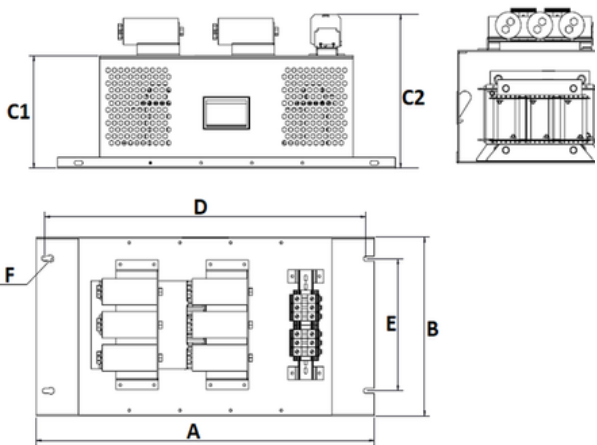
* Motor drive input current without harmonic filter

** In order to apply TPQH3311 filters, motor drives must be equipped with either DC-link choke or AC line choke. The minimum required inductance values are given in mH in the filter selection table. If neither DC-link choke nor AC line choke is present, or if the minimum mH rating is not fulfilled. TPQH3311 filter must not be used. In this case, TPQH3311 needs to be chosen.

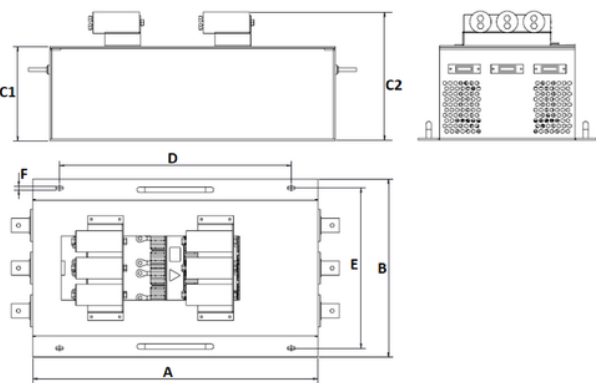
1.1kW to 55kW



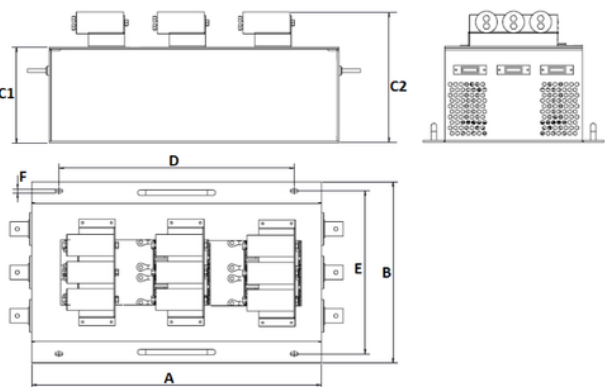
75kW & 90kW



110kW & 132kW



160kW to 250kW



Mechanical dimensions

Model Number	A	B	C1	C2 (Max)	D	E	F
TPQH3311-1.62-2	360	160	150	220	340	120	7
TPQH3311-3.23-2	360	160	150	220	340	120	7
TPQH3311-5.9-2	425	180	180	260	405	120	7
TPQH3311-8.1-2	483	210	180	260	460	150	7
TPQH3311-11-2	483	210	180	260	460	150	7
TPQH3311-16-2	560	260	200	300	540	180	11
TPQH3311-22-2	560	260	200	300	540	180	11
TPQH3311-28-2	560	260	200	300	540	180	11
TPQH3311-32-2	705	290	260	380	680	220	11
TPQH3311-44-2	705	290	260	380	680	220	11
TPQH3311-54-2	705	290	260	380	680	220	11
TPQH3311-66-2	705	290	260	380	680	220	11
TPQH3311-81-2	705	290	260	380	680	220	11
TPQH3311-110-2	960	353	350	450	920	280	11
TPQH3311-133-2	960	353	350	450	920	280	11
TPQH3311-162-3	1150	462	380	500	1115	390	11
TPQH3311-195-3	1150	462	380	500	1115	390	11
TPQH3311-238-3	1150	462	380	500	1115	390	11
TPQH3311-297-3	1150	462	380	500	1115	390	11
TPQH3311-376-3	1400	550	480	600	1348	480	11

NOTE:

- All dimensions are in mm. Tolerance Applicable (± 10 mm).
- Drawings/Dimensions provided above are for reference only. Exact dimensions will be provided at the time of production.

Inlet air flow required for cooling

Rated Load Power (kW)	Minimum air Volume (m ³ /h)
1.1 to 7.5	0
11 to 19	130
22 to 55	210
75 & 90	410
110 to 200	620
250	820

Filter Earth Terminals

Rated Load Power (kW)	Screw Thread (Metric)	Screw Torque value (Nm)
1.1 to 7.5	M5	2.2
11 to 19	M6	4
22 to 45	M8	9
55 to 200	M10	17
250	M12	25

Note: External air flow required for filter configurations without embedded ventilation

Filter Power Terminals

Rated Load Power (kW)	Screw Thread (Metric)	Connector (mm ²)	Flex Wire(mm ²)	Screw Torque value (Nm)
1.1 and 2.2	M3	4	2.5-4	0.5
4 to 7.5	M4	6	4-6	0.8
11 to 19	M4	16	6-16	1.2
22 to 45	M6	35	10-50	2.5
55 to 90	M6	50	10-70	3

Filter installation

In order to ensure sufficient air flow, keep a clearance between the device, wall and other components of minimum 150mm above, 100mm on the side and for floor mounted ones 150mm below the filter. Additional work to access the device, caused by not respected clearance distances, will be accounted separately. It must be ensured that the environmental temperature is kept below the maximum allowed temperature with appropriate thermal management (e.g. cabinet cooling).

