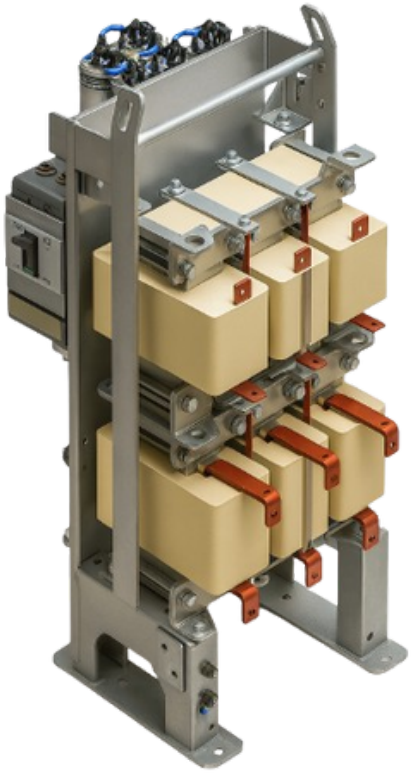


DATASHEET

Passive Harmonic Filter- TPQH31011/TPQH31311

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

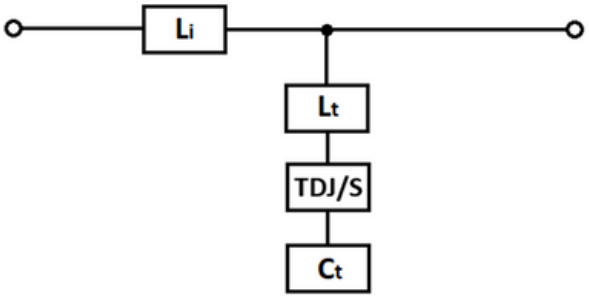
Features:

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

Applications:

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

Type Circuit Diagram:



Technical Specifications:

Operating Voltage	: 3x380VAC to 415 VAC ± 10 %
Operating Frequency	: 50Hz
Nominal motor drive input power rating	: 200 kW to 500 kW
Total harmonic current distortion THDi*	: According to 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 2520VAC (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 * √(70°C-Tamb)/25°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 4% LDC Load reactor as mentioned in ordering Information

Ordering Information with Circuit Breaker Module

Model Number	Par Number	Rated Load Power [kW] @ 400VAC	Motor Drive Input current (A)*	Rated filter Input current (A)	Required Ldc for 5% THDi** (mH)	Circuit Breaker	Termination	Min. Weight (Kgs)
TPQH31011-297-3	E109312-1	200	312	297	0.12	250	Busbar-30x6	250
TPQH31011-376-3	E109313-1	250	435	376	0.082	250	Busbar-30x6	250
TPQH31011-475-3	E109314-1	315	655	475	0.065	250	Busbar-50x8	280
TPQH31011-538-3	E109315-1	355	727	538	0.058	300	Busbar-50x8	300
TPQH31011-608-3	E109316-1	400	808	608	0.051	400	Busbar-50x8	370
TPQH31011-766-3	E109317-1	500	985	766	0.041	400	Busbar-50x8	420

Ordering Information with Trap Disconnect Jumper

Model Number	Par Number	Rated Load Power [kW] @ 400VAC	Motor Drive Input current (A)*	Rated filter Input current (A)	Required Ldc for 5% THDi** (mH)	Termination	Min. Weight (Kgs)
TPQH31311-297-3	E109318-1	200	312	297	0.12	Busbar-30x6	250
TPQH31311-376-3	E109319-1	250	435	376	0.082	Busbar-30x6	250
TPQH31311-475-3	E105697-1	315	655	475	0.065	Busbar-50x8	280
TPQH31311-538-3	E105698-1	355	727	538	0.058	Busbar-50x8	300
TPQH31311-608-3	E105699-1	400	808	608	0.051	Busbar-50x8	370
TPQH31311-766-3	E105700-1	500	985	766	0.041	Busbar-50x8	420

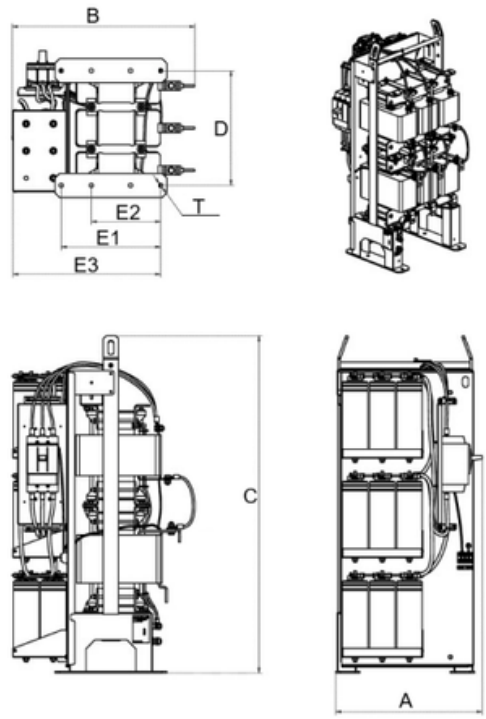
NOTE:

* Motor drive input current without harmonic filter

** This series filters can be applied for drives with and without Ldc. 8% THDi (@rated power) is achieved when they are applied to drives without Ldc, while 5% THDi (rated power) is achieved when there is a 4% Ldc present in the drive.

Mechanical Drawing

200kW to 250kW



Mechanical dimensions

Rated Load Power (kW)	A(Max.)	B(Max.)	C	D	E1	E2	E3	T
200	505	650	1120	380	330	230	490	13.5
250	505	650	1120	380	330	230	490	13.5
315	505	650	1120	380	330	230	490	13.5
355	505	650	1120	380	330	230	490	13.5
400	680	600	1320	458	320	225	485	13.5
500	680	600	1320	458	320	225	485	13.5

NOTE:

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

Filter Earth Terminals

Rated Load Power (kW)	Screw Thread (Metric)	Screw Torque value (Nm)
200 to 500	M12	20-25

Inlet air flow required for Cooling

Rated Load Power (kW)	Minimum air Volume (m^3/h)
200 to 500	1069

Note: *Complete cooling requirement, including air inlet placement, must be followed.

Filter installation

In order to ensure sufficient air flow, keep a clearance between the device, wall and other components of minimum150mm 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).