



# Product Type Approval Certificate

## *Restricted*

This certificate is issued to:

<b>Supplier name and address:</b>	Optimised Network Equipment Pty Ltd. 41/2 Benson Street, Toowong, QLD 4066
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In respect of:

<b>Manufacturer:</b>	Main capacitor bank – Nokian Capacitors Ltd. (ALSTOM company) Auxiliary capacitor bank - Nokian Capacitors Ltd. (ALSTOM company) Reactor – Nokian Capacitors Ltd. (ALSTOM company) Damping resistor – Microelettrica Scientifica M.S. Resistances
<b>Place of manufacture:</b>	Main capacitor bank - Kaapelikatu 3, 33330 Tampere, Finland Auxiliary capacitor bank - Kaapelikatu 3, 33330 Tampere, Finland Reactor - Kaapelikatu 3, 33330 Tampere, Finland Damping resistor - Zone Industrielle Du Coin, Rue De Cret de la Perdrix, 42400 St. Chamond, France
<b>Product description:</b>	33kV, 4Mvar, C-type, harmonic filter for use in traction applications to reduce the level of AC harmonics generated to acceptable limits. The harmonic filter is manufactured in accordance with the Sydney Trains, Granville Junction SS harmonic filter specification ER0987, Revision 1.
<b>Use approved for:</b>	Use on the RailCorp 33kV ac network
<b>Conditions of approval:</b>	For use in Granville Junction traction substation. The harmonic filter protection requirements shall comply with the approved concept protection design. Reference drawings (Granville Junction traction SS): <ul style="list-style-type: none"><li>• EL 0588069, Rev B – 33kV Harmonic filter Equipment and Conduit General Arrangement</li><li>• EL 0588070, Rev B – 33kV Harmonic Filter Earthing and Bonding General Arrangement</li><li>• EL 0588071, Rev B – 33kV Harmonic Filter Cable Support Stand details</li><li>• EL 0587740, Rev A - 33kV Harmonic Filter ACCB Schematic diagram</li></ul>
<b>Limitations:</b>	Future procurement of this 33kV harmonic filter would require engineering assurance for compliance with the Sydney Trains harmonic filter specification and consultation with the Lead Electrical Engineer, ASA.

## Evaluating rail transport operator

<b>Name:</b>	Terry Niemeier
<b>Position:</b>	Lead Electrical Engineer, Asset Standards Authority, Transport for NSW
<b>Signature:</b>	<i>T Niemeier</i>
<b>Date:</b>	19/12/2019

**Product approval pack reference number:** qA732159