



AUSTRALIAN RAIL TRACK CORPORATION

INFRASTRUCTURE, STRATEGY AND PERFORMANCE

Engineering Standards and Documents

The following recommendation, together with attached supporting documentation, has been considered by the Manager Standards & Systems on 2nd February 2007.

Documents:

Ref No:	08-08-10-044 Equipment Type Approval
Subject:	'Crompton Greaves' Miniature Plug-in Relays (Q type)
Dated:	22 nd January 2007.

Prepared By: Arthur Haberlin, Signal Engineer - Equipment

Endorsed by: Trevor Moore, Signal Standards Engineer

Items Considered for Approval:

Manufacturer:	Crompton Greaves, Signalling Division, Dhar, India
Product:	Q-type Miniature Plug-in Relays.
Item Identification:	See item list Ref No: 01-0611-034a

The items in the form presented at the review date were approved for System & Equipment Approval to be used on all ARTC jurisdictions in accordance with the manufacturers published performance criteria and subject to the following.

Relevant ARTC Specifications:

Ref. No.	Title	Status	Date
SPS 02	Environmental Conditions	Issue 1 Revision 2	May '05
SPS 10	Specification Relays, Plug-in Vital	Issue 1 Revision 3	May '05

Specific Conditions of Approval:

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| <p>i. Each relay shall successfully undergo an additional type specific acceptance testing by the Importer in Australia with a copy of the individual test certificate supplied to ARTC. The test certificate shall reference both the Factory and the Importer test results together with the</p> |
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individual testers' references.

- ii. Especial care shall be exercised when inserting relays into a base drilled for a non-'Network Rail' pin code (pins positions S, T, X, Y or Z drilled) to ensure that the correct relay type is utilised.
- iii. For use in accordance with ARTC specification SDS 25 – 'Circuit Design Standards' and standard typical circuits only.
- iv. Only components from list **01-0611-034a** may be utilised.

Certificate Issued to:

Selectrix International Pty. Ltd.
2 Merchant Avenue
Thomastown
Melbourne
Victoria 3074

A general condition of approval is that the supplier remains accredited to ISO 9001 specifically for these products and ARTC is advised on a 12 monthly basis that accreditation is current. ARTC reserves the right to conduct its own audit of the manufacture and supply of these components to AS 19011:2003.

Any subsequent change to the design, materials or manufacturing process is not covered by this approval.

Approved for use in the ARTC.



John Cowie

Manager Standards & Systems

APPROVAL No: 08-08-10-044

Approval Date: **2nd February 2007**



AUSTRALIAN RAIL TRACK CORPORATION LTD

Ref No: 01-0611-034a

Date: 22nd January 2007

Equipment Type Approval

Subject: 'Crompton Greaves' Miniature Plug-in Relays (Q-type)

The following lists the individual types (by manufacturer's specification number) of Miniature Plug-in Relays, manufactured by Crompton Greaves in India and distributed in Australia by Selectrix Industries Pty. Ltd. after quality control inspection, which are type approved for use in signalling circuits on ARTC infrastructure under Type Approval Certificate **08-08-10-044** subject only to any conditions shown on that Certificate and the Conditions of Use shown against individual types.

Specification No.	Pin Code (BRB)	Description - Contact & (Coil) Configuration	Conditions of Use
Relays			
QBA1-4842137	027	QBA1 – 12F/4B (50v DC)	
QBA1-4842149	028	QBA1 – 8F/8B (50v DC)	
♣ QBA1-4842137	027	QBA1 – 8F/4B (50v DC)	¶(Use 12F/4B for new works).
♣ QBA1-4842149	028	QBA1 – 6F/6B (50v DC)	¶ (Use 8F/8B for new works).
♣ QBA1-4842149	028	QBA1 – 4F/4B (50v DC)	¶ (Use 8F/8B for new works).
QBBA1-4842164	049	QBBA1 – 2x6F/2B (50v DC)	
QBBA1-4842176	017	QBBA1 - 2x4F/4B (50v DC)	
QBCA1-4842033	172	QBCA1 – 2HF/4B (50v DC)	
QBCA1-4842045	160	QBCA1 – 2HF/4F/4B (50v DC)	
QL1-4841735	011	QL1 – 11F/4B (50v DC)	
QL1-4841747	008	QL1 – 8F/6B (50v DC)	
QN1-4841153	003	QN1 – 12F/4B (50v DC)	
QN1-4841165	004	QN1 – 8F/8B (50v DC)	
QNA1-4841233	023	QNA1 – 12F/4B (50v DC)	



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Specification No.	Pin Code (BRB)	Description - Contact & (Coil) Configuration	Conditions of Use
QNA1-4841245	024	QNA1 – 8F/8B (50v DC)	
♣ QNA1-4841233	023	QNA1 – 8F/4B (50v DC)	¶ (Use 12F/4B for new works).
QNHX1-4842363	029	QNHX1 – 8F/4B (110v AC)	Not immune to DC current.
QNHXC1-4842387	ADGKS	QNHXC1 – 2HF/4F/4B (110v AC)	Not immune to DC current.
QNN1-4842547	212	QNN1 – 2x6F/2B (50v DC)	
QNN1-4842535	211	QNN1 - 2x4F/4B (50v DC)	
QNN1-4842523	092	QNN1 – 2x6F/2B (24v DC)	
QNN1-4842511	057	QNN1 - 2x4F/4B (24v DC)	
QNNA1-4842574	209	QNNA1 – 2x6F/2B (50v DC)	
QNNA1-4842598	210	QNNA1 – 2x4F/4B (50v DC)	
QSPA1-4841429	043	QSPA1 – 8F/4B (50v DC)	
QSRA1-4841468	063	QSRA1 – 8F/4B (50v DC)	
QT2-4841349	BDEGX	QT2 – 8F/8B (250Ω)	For use with CSEE track circuit equipment only.
QTA2-4841524	110	QTA2 -2F (9Ω)	¶ (Use 2F/2B for new works).
QTA2-4841512	FGHKX	QTA2 -2F/1B (9Ω)	¶ (Use 2F/2B for new works).
QTA2-4841536	110	QTA2 -2F/2B (9Ω)	
QUCX1-4842324	070	QUCX1 – 2F/2B (1.4A)	110v AC circuit proving for 520mA minimum release current.
Plugboard			
Q-aaaaaa-B	#	Q-style relay plugboard.	Substitute <i>aaaaaa</i> by required pin code hole positions on order.

¶: Approved for continued use in existing installations.

♣: Special order contact configuration.