

TECHNICAL INSTRUCTION

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NETWORK RAIL - SIGNAL ENGINEERING

Current Index of Technical Instructions Contained in NR/L2/SIG/11120

Relevant Standard: Various (see individual TIs)

Document Number	Document Description	Issue	Published On
TI 001	Intermixing of PCP and PVC Insulated internal wire	1	July 2003
TI 005	Defective AWS – Restricting Signals	3	26/08/2008
TI 008	Point Circuits: Drive & Detection Supplies	1	January 2005
TI 011	Post Cat 'A' SPAD Signal Sighting Committees	4	22/09/2011
TI 016	Typical Circuit – LED Shunt Signal Retrofit	1	April 2005
TI 017	TI 21 Track Circuits with Steel Sleepers	1	April 2005
TI 019	AzLM Axle Counter System Risk-Based Maintenance	1	May 2005
TI 022	Robust Train Protection: Replacement OSS positioning rules	2	11/04/2012
TI 025	TPWS Loop Positioning – Buffer Stops	1	February 2006
TI 026	TPWS Loop Positioning – Minimum Separation	1	February 2006
TI 028	'Triple-Path' Surge Arresters Used in Aster21, U-Type & SF15 Track Circuits	3	18/01/2011
TI 031	Coe 300 CCTV Transmission Equipment	1	April 2006
TI 032	Asbestos baseboards in apparatus cases	1	May 2006
TI 033	Double Cutting of Back Contacts in Safety Critical Circuits	1	June 2006
TI 034	Signalling Records – Versions of Microstation CAD	1	June 2006
TI 036	WRSL Westrix Signalling Event Recorder	1	June 2006
TI 038	Point Control and Detection Circuits	4	16/04/2010
TI 041	Setting up and adjustment of SK30H Axle Counter Heads on AzLM systems	1	July 2006
TI 044	Identification of Primary Semaphore Signal	1	July 2006
TI 045	HVI Track Circuits in DC 3rd RAIL and Dual Electrified Areas SMS Test 35	1	October 2006
TI 047	Zero Tolerance to Earth Faults	1	October 2006
TI 052	Auto-Lubrication System for the Rail Point Clamp Lock (RPCL)	3	29/06/2010
TI 054	SMTH for Alstom SO Hydraulic Supplementary Point Drive System	1	February 2007
TI 055	Introduction of NR60 Point Layouts	1	February 2007
TI 059	Low Voltage DC Track Circuits & Electric Point Heating	1	March 2007
TI 060	Bender Earth Leakage Detector in Manchester South Area	1	March 2007
TI 061	Actions to be taken for defective stretcher bars and free wheel clearances less than 50mm	2	March 2007
TI 062	DC Track Circuits: Abutting Low- & Medium-Voltage Types	1	April 2007
TI 067	TPWS Trackside Equipment Maintenance Test	1	May 2007
TI 068	Axle Counter Resets	1	June 2007
TI 077	Equipotential Bonding of Metalwork	1	Sept 2007
TI 081	HPSS Assembly and Installation	1	Dec 2007
TI 082	Design of Circuits using Micronome and QMT2 Timers	1	Dec 2007
TI 085	Excess Signal Spacing Risk Assessments	1	Feb 2008

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TI 089	Vortok 'Gatekeeper' - SMS & SMTH Items	1	April 2008
TI 090	Installation of Train Operated Points	1	April 2008
TI 091	General Instruction - Damaged Signalling Equipment	1	May 2008
TI 092	Provision and extent of Comprehensive Approach Locking	1	May 2008
TI 094	General Instructions to Staff Working on S&T Equipment - Organisational Update	1	26/08/2008
TI 095	Signal Overrun Risk Assessment	4	26/05/2010
TI 097	Standard Strength AWS Suppressor Inductor (new level surface design)	3	13/01/2009
TI 098	BR 843 Barrier Side Arm Retaining Bolt	1	June 2008
TI 100	Use of LED Long Range and Medium Range Signal Heads for Flashing Aspects	1	June 2008
TI 101	Signalling Circuits Carried Over Telecoms Transmission Systems -Impact On Train Describer Specifications	2	10/12/2008
TI 103	Electronic Wheel Sensors	1	June 2008
TI 104	Signalling Maintenance Testing Handbook – Missing Equipment Checks	1	June 2008
TI 106	Level Crossing CCTV Systems: Mixing Of Colour with Black & White	1	June 2008
TI 107	Thales AzLM Axle Counter System – Reliability Checks and Improvements	1	June 2008
TI 108	Axle Counter within Neutral Section	1	July 2008
TI 109	Hy-Drive Point Operating Mechanism Lift and Slew Limits For Tamping Without Removal And Reinstatement of Drive Pins ("Gold Pins")	1	August 2008
TI 110	WAGO Terminals	1	August 2008
TI 112	Fastenings for use with Drive and Detector Lugs on Fixed Stretcher Bars on Full Depth Switches	1	16/12/2008
TI 115	SMARTLOCK - SMS & SMTH Items	1	17/10/2008
TI 116	Reverting Control from SMARTLOCK to SSI	1	23/10/2008
TI 118	NR/SMS and NR/SMTH items for the Siemens AzS 350U Axle Counter System	1	14/11/2008
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TI 122	Limit Switch Adjustment Procedure for GWE Barrier Machines	1	14/01/2009
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TI 129	Swinging Overlap Rogue Point Test	1	18/02/2009
TI 133	New Design of Toe and Supplementary Rail Position Sensors	2	06/10/2010
TI 134	Point Batteries for Point Operation	1	17/03/2009
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TI 145	Procedure for Degraded Operation of HPSS Points in the Event of a Toe LVDT Failure	1	15/09/2009
TI 146	Aligning NR/GN/SIG/11701 to NR/L2/SIG/30014	1	13/01/2010
TI 147	Aster Type U (SF15) and TI21 Tail Cable Installation	1	13/01/2010
TI 148	Issue of design for testing	1	25/02/2010
TI 149	Intelligent Infrastructure Data Logger – Design, Install & Commission	2	09/06/2011
TI 150	Intelligent Infrastructure Data Logger – Test Plan	1	16/04/2010
TI 151	Alignment of LED Long- and Medium-Range Signals	1	01/10/2010
TI 152	Treadles and Treadle Brackets – SMS TQ00	1	01/10/2010
TI 153	Amendments to HPSS Signalling Maintenance Specification	1	30/11/2010
TI 154	S&C Confirmation Gauge – Loose Pin Carriers	1	30/11/2010
TI 155	Signal House LED Colour Light Signals – Aspect Module Voltage Tappings	1	24/02/2011
TI 156	New Fine Packing Shim For Clamp Locks	1	24/02/2011
TI 157	SSP 50 – Remote Control Standby Arrangements GK/RT0025 (GK/GN0525) - Signalling Control Centres	1	24/02/2011
TI 159	Process for the Campaign Conversion of Aster to Aster21 TC's	1	25/05/2011
TI 160	Campaign Change – Conversion of Aster U/SF15 TC to Aster21 TC	1	25/05/2011
TI 161	GETS Electronic Treadle Unit (ETU), Final Function Test of Output Relay	1	24/05/2011
TI 162	Restriction of positioning of TPWS loop in reference to EBI Track 200	1	15/07/2011
TI 163	Clamp Lock Microswitch Test Procedure	1	29/09/2011
TI 164	650V / 400V IT Signalling Power Supplies	1	10/01/2012
TI 165	M30 Hard-Lock Nuts for Adjustable Stretcher Bar Assemblies - Not issued	1	18/10/2011
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TI 167	Initiators of ESR – Maintenance Staff only	1	19/03/2012
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TI 169	Halogen Lamps in Bombardier Fibre Optic Signals & Indicators	1	12/04/2012