

Manufacturer:
SELLA Controls

Issue : 4
Valid From : 04/09/2019
Monitoring Period : 6 months (Trial element)

TRACKLINK[®] RTU

Product Description

The application covers the Remote Terminal Unit (RTU) and its components that form the solution offered by SELLA Controls and Mitsubishi Electric UK. The solution, as a branded product, is known as the TRACKLINK[®] RTU.

This RTU is manufactured and supplied by SELLA Controls using Mitsubishi Q/IQR Series modules and forms part of the national traction power SCADA system renewal project. This is a new SCADA system to manage and operate the electricity supplies to the railway infrastructure, nationally.

This RTU solution and the products detailed in this application consist of a range of Q/IQR Series Modules, HS Interface Cards and ancillary hardware components which can be used to expand its functionality. The TRACKLINK[®] RTU will be available for new distribution locations and for the replacement of life expired RTUs.

The TRACKLINK[®] RTU facilitates multiple protocol interfaces. The application covers the supply of interfaces to both new and existing traction power SCADA systems.

Product Image



Scope of Acceptance

Full Acceptance:

Full acceptance for use with the MT700 protocol. On first use in an area of control, the MT700 protocol shall be fully mapped and verified as part of both the FAT and SAT.

NOTE: The catalogue numbers for the modules in the Product Configuration section of this certificate are for MT700 applications only until such time that serial DNP3 and DNP3/IP functionalities have been proven.

Trial Acceptance:

DNP3 over Serial Communications Protocol – Rugby/Crewe ECR

- **Trial site:** Barnby St substation (substation to provide power for the whole of Euston station)
- This constitutes the formal trial of the TRACKLINK[®] RTU with Rugby and Crewe SCADA systems using the serial DNP3 communications protocol.

DNP3 over IP Communications Protocol – TPCMS SCADA System

- **Trial sites:** As required for new electronic outstations in the Raynes Park ECR area of control
- Encryption shall be used for all communications between the outstations and the TPCMS central master station.

Network Rail Acceptance Panel (NRAP) hereby authorises the product above for use and trial use on railway infrastructure for which Network Rail is the Infrastructure Manager under the ROGS regulations.

Reviewed by:

Authorised by:



Samantha Flint
Product Acceptance Coordinator



Felix Langley
Professional Head of Power Distribution (HV/LV)

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Specific Conditions

The following Conditions are specific to the approved product/s contained within this Certificate. These conditions must be adhered to in addition to the Network Rail General Conditions contained within the "General Terms and Conditions" section.

Failure to adhere to these conditions may result in the withdrawal or suspension of Acceptance of some, or all of the items contained within the accepted configuration.

Manufacturer

- 1) Existing Network Rail operation procedures and work instructions, where applicable, shall be applied to the use and installation of this RTU.
- 2) Specific requirements detailed by the BBD020 project.

User

- 1) **Cromos-based master stations communications using MT700 protocol:**
 - It is the responsibility of each project to identify the risks of the proposed system during the design phase and implement appropriate mitigating measures.
 - System functionality and stability shall be proven via FAT and SAT processes, the results of which shall be accepted and signed-off by the relevant Project Engineer.

BBD020 National SCADA Project

- 1) Existing Network Rail operation procedures and work instructions, where applicable, shall be applied to the use and installation of this RTU.
- 2) Product O&M manual to be supplied the BBD020 project.
- 3) It is the BBD020 project's responsibility to ensure the DNP3/IP solution is consistent with existing implementations across Network Rail on the LNE and Scotland routes.
- 4) The project shall provide evidence of the DNP3/IP protocol mapping/device profile, detailing compliance and functionality in relation to (3).

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Product Configuration

System or Complete Assembly

Part No.	Description	Catalogue No.
TRACKLINK® RTU (Mini)	RTU build for UPS/PSP monitoring installations	0054/213299
TRACKLINK® RTU (Small)	RTU build for TPH/TSC installations	0054/213300
TRACKLINK® RTU (Medium)	RTU build for Substation/Feeder Station installations	0054/213301
TRACKLINK® RTU (Large)	RTU build for large installations	0054/213302

Hardware (Maintenance Spares and Line Replaceable Units)

Part No.	Description	Catalogue No.
Sella Controls HSD10000	HSD10000 PCB 32 channel input interface	0054/212750
Sella Controls HSD10001	HSD10001 PCB 8 channel breaker control interface	0054/212751
Sella Controls HSD10002	HSD10002 PCB analogue interface	0054/212752
Mitsubishi Q Series Modules		
Mitsubishi QnU-CPU (04,06,013)	PLC main CPU	0054/212753
Mitsubishi Q24DHCCPU-V	PLC C-Controller CPU (DNP3 Serial module)	0054/212754
Mitsubishi QJ1E71-100	PLC Ethernet module	0054/212755
Mitsubishi QnDB (35, 38,312)	PLC main base unit high speed	0054/212757
Mitsubishi Q63P	PLC PSU module 24V DC TO 5V DC	0054/212758
Mitsubishi QJ71C24N-R2	PLC serial interface 2 channel module	0054/212759
Mitsubishi QX81	PLC Digital Input module	0054/212760
Mitsubishi QY41P	PLC Digital Output module	0054/212761
Mitsubishi Q68ADI	PLC analogue Input module	0054/212762
Mitsubishi QG60	Card Slot Blank	0054/212763
Mitsubishi GT2712-STBD	HMI GOT 2000	0054/212764
Mitsubishi IQR Series Modules		
Mitsubishi Rn-CPU (04,08,016)	PLC MAIN CPU MODULE	0054/213303
Mitsubishi R12CCPU-V	PLC C-CONTROLLER (IEC 61850 Module)	0054/213304
Mitsubishi RD55UP06-V	PLC C-CONTROLLER (DNP3/IP Module)	0054/213305
Mitsubishi RJ71EN71	PLC ETHERNET MODULE	0054/213306
Mitsubishi RnDB (33,35,38,312)	PLC MAIN BASE UNIT HIGH SPEED	0054/213307
Mitsubishi R63P	PLC PSU MODULE 24VDC TO 5VDC	0054/213308
Mitsubishi RJ71C24-R2	PLC SERIAL INTERFACE 2 CHANNEL MODULE	0054/213309
Mitsubishi RX41C4	PLC DIGITAL INPUT MODULE	0054/213310
Mitsubishi RY41NT2P	PLC DIGITAL OUTPUT MODULE	0054/213311
Mitsubishi R60ADI8	PLC ANALOGUE INPUT MODULE	0054/213312
Mitsubishi RG60	CARD SLOT BLANK	0054/213313
Mitsubishi GT2715-XTBD	HMI GOT 2000	0054/213314
MOXA MGate 5109 Series	DNP3 Serial Gateway module	0054/213315
Hirschmann RS20-0400T1T1SDAEHH04.0.	Managed Ethernet Switch 4 WAY	0054/212766
Westermo TD-23 LV	Industrial back-up PSTN and Leased Line Modem	0054/212767
RS Components 660-1463	Bulkhead RJ45 Communication	0054/212777
RS Components 504-4588	Sealing Cap for RJ45 Bulkhead Connector	0054/212778
Mitsubishi A6CON1E	37-pin D-Sub Connector Soldering type for QX81 module	0054/212789

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Part No.	Description	Catalogue No.
Mitsubishi A6CON1	40-pin Connector Soldering type for QY41P module	0054/212790
RS Components 117-4332	Straight Panel Mount Solder D-sub Connector, Socket, 25 Way for HSD10002 PCB	0054/212791

Software – DNP3 Serial and DNP3/IP Applications

Part No.	Description	Version No.
Mitsubishi Q24DHCCPU-V	TRACKLINK® DNP3 Serial implementation	1.0
Mitsubishi RD55UP06-V	TRACKLINK® DNP3/IP implementation	1.0

Software – IEC61850

Part No.	Description	Version No.
Mitsubishi R12CCPU-V	Copa Data Straton Licence inc. 61850 client	7.8
	GX works 3 PLC Programming Environment	1.45

Software – MT700 Protocol (Cromos-based Master Stations)

Part No.	Description	Version No.
PLC S/W	Software installed on PLC for MT700 protocol communications with the Cromos based SCADA systems at Network Rail ECR	V1.0

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Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
PA05/06125	NWR Stage 3 PA		04/08/2015	T1/1
PA05/06125	Q/L-Family MELSEC Modular PLC Hardware Guide		04/08/2015	T1/1
PA05/06125	iQ Platform Programmable Controllers MELSEC-Q series		04/08/2015	T1/1
PA05/06125 Mitsubishi – 1	Automation Systems Certificate	24/01/14	04/08/2015	T1/1
PA05/06125 Mitsubishi – 2	Environmental Policy statement 2014.docx (Blanked)	May 2014	04/08/2015	T1/1
PA05/06125 Mitsubishi – 3	ISO 9001 Zertifikat (Lunzar)	23/02/15	04/08/2015	T1/1
PA05/06125 Mitsubishi – 4	ISO 9001 IQNet do 311016 en (INEA)	4	04/08/2015	T1/1
PA05/06125 Mitsubishi – 5	ISO 9001 Cert 17381 for 2013-2016	22/01/04	04/08/2015	T1/1
PA05/06125 Mitsubishi – 6	Quality Policy Statement	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 7	ISO90001		04/08/2015	T1/1
PA05/06125 Mitsubishi – 8	ME RTU Brochure	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 9	ME RTU User Manual	A	04/08/2015	T1/1
PA05/06125 Mitsubishi – 10	ME-RTU Software Updates Rev 1_00 to 1_20	1	04/08/2015	T1/1
PA05/06125 Mitsubishi – 11	C Controller Information	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 12	CRtu Brochure	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 13	IEC 61850 Stack User Manual	v7	04/08/2015	T1/1
PA05/06125 Mitsubishi – 14	Q24 C Controller User Manual	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 15	Straton User Manual	v7	04/08/2015	T1/1
PA05/06125 Mitsubishi – 16	Q Series [QnU] CPU Overview	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 17	Q L Family Hardware Guide	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 18	QCPU UsersManual	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 19	QCPU UsersManual MultipleCPUSystem	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 20	GX Works2 Brochure	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 21	GX2 Operating Manual (Structured Project)	1	04/08/2015	T1/1
PA05/06125 Mitsubishi – 22	MELSEC-QLF Structured Programming Manual (Fundamentals)	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 23	Deklaration of Conformiti 4 (Luznar)	01/07/14	04/08/2015	T1/1
PA05/06125 Mitsubishi – 24	Example Test Report for Q Series	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 25	ME RTU Declaration of conformity	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 26	ME RTU EMC Tests	27/05/13	04/08/2015	T1/1
PA05/06125 Mitsubishi – 27	Q PLC Declaration of Conformity	29/01/09	04/08/2015	T1/1
PA05/06125 Mitsubishi – 28	Q PLC Declaration of Conformity contc	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 29	RTU-FX3-SIQ-LVD-CertScan 20130712	08/07/13	04/08/2015	T1/1
PA05/06125 Mitsubishi – 30	Statement of Compliance with GADSL (Luznar)	01/05/14	04/08/2015	T1/1
PA05/06125 Mitsubishi – 31	T223-0232_13	14/06/14	04/08/2015	T1/1
PA05/06125 Mitsubishi – 32	ME RTU DNP3 Kema	21/07/14	04/08/2015	T1/1
PA05/06125 Mitsubishi – 33	Q Series IEC 60870-5-104 Kema	08/02/08	04/08/2015	T1/1
PA05/06125 Mitsubishi – 34	Straton IEC61850 Client Kema	14/06/11	04/08/2015	T1/1
PA05/06125 Mitsubishi – 35	MTBF All iQ Platform	-	04/08/2015	T1/1
PA05/06125 Mitsubishi – 36	Network Rail BBD020 Project SIL Information	1.0	04/08/2015	T1/1
PA05/06125 Mitsubishi – 37	GX Works 2 Structured Programming (IEC)	v3.7	04/08/2015	T1/1
PA05/06125 Mitsubishi – 38	Training manual Straton	v7.0	04/08/2015	T1/1
Q24DHCCPU-V IEC 61850 PICS	Mitsubishi Electric Q24DHCCPU-V IEC 61850 PICS Draft	1	04/08/2015	T1/1
Q24DHCCPU-V IEC 61850 TICS	Mitsubishi Electric Q24DHCCPU-V IEC 61850 TICS Draft	1	04/08/2015	T1/1
Q24DHCCPU-V IEC 61850 MICS	Mitsubishi Electric Q24DHCCPU-V IEC 61850 MICS Draft	1	04/08/2015	T1/1
Q24DHCCPU-V IEC 61850 PIXIT	Mitsubishi Electric Q24DHCCPU-V IEC 61850 PIXIT Draft	1	04/08/2015	T1/1
PA05/06125	COPALP IEC 61850 Client Datasheet	1	04/08/2015	T1/1
BBD020-TLT-PLN-ESC-0000060	BBD020 Systems Assurance Plan	3	04/08/2015	T1/1
BBD020-TLT-PLN-ESC-0000056	BBD020 Core FAT Specification (Outstation)	1	04/08/2015	T1/1
BBD020-TLT-PLN-ESC-00000112	FAT Test Plan	1	04/08/2015	T1/1

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Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
BBD020-TLT-SPE-ESC-0000084	Infrastructure FAT Test Specification	2	04/08/2015	T1/1
BBD020-TLT-SPE-ESC-0000017	RAM And Resilience FAT Test Specification	2	04/08/2015	T1/1
BBD020-TLT-SPE-ESC-0000099	Security FAT Test Specification	2	04/08/2015	T1/1
BBD020-TLT-SPE-ESC-0000054	Core FAT Specification (Performance)	1	04/08/2015	T1/1
BBD020-TLT-SPE-ESC-00000645	CMS FAT Test Specification	2	04/08/2015	T1/1
PA05/06125	West Ham FS FAT - Signed	1	11/04/2016	T2/1
PA05/06125	West Ham FS SAT - Signed	1	11/04/2016	T2/1
PA05/06125	06125 (SELLA Controls) Tracklink RTU Product acceptance trial report email.msg	1	15/06/2016	1
PA05/06125	E.1 Romford ECR Event Log Extract.pdf	1	15/06/2016	1
PA05/06125	E.2 Romford ECR Event Log Extract - Filtered for Circuit Breaker.pdf	1	15/06/2016	1
PA05/06125	E.3 Romford ECR Event Log Extract - Filtered for Alarm.pdf	1	15/06/2016	1
HSD10000-PAR	Product Acceptance Report	0	15/06/2016	1
HSD10000-PAR	Product Acceptance Report Holmethorpe DC Module	Issue 0	26/01/2018	2
C14699R-FDS-HLT	Holmethorpe Substation Functional Design Specification	Issue 4	16/05/2017	2
C14699R-SAT	Holmethorpe Substation Site Acceptance Test Procedures	Issue 1	29/08/2017	2
C14699R-FAT	Holmethorpe Substation Factory Acceptance Test Procedures	Issue 2	16/05/2017	2
C14951R	Cross Acceptance Safety Justification for Euston Station Tracklink RTU Integration	Rev 2.0	22/01/2019	3
-	Graphite Edge Controller datasheet	-	-	3
-	TRACKLINK [®] RTU (Small)	v1	-	4
-	TRACKLINK [®] RTU (Medium)	v1	-	4
-	TRACKLINK [®] RTU (Large)	v1	-	4

Manuals and Training Materials

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
PA05/06125	To be supplied by the BBD020 project and required for full certification.		04/08/2015	T1/1
C14699R-OMM	Holmethorpe Substation Operation & Maintenance	Issue 1	21/12/2016	2

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Certificate History

Issue	Date	Issue History
1T	04/08/2015	First trial issue – acceptance for trial use to validate full acceptance criteria
2T	25/04/2016	Second trial issue – to reflect a revised component list and that this is a Hima Sella product that uses Mitsubishi Q Series modules
1	15/07/2016	Full acceptance for Anglia route sites using Cromos86, trial status for all other SCADA systems
2	27/02/2018	Full acceptance across all routes with Cromos-based master stations using the legacy MT700 serial communications protocol. Hardware (Maintenance Spares and Line Replaceable Units) updated to remove items which are not line replaceable units.
3	12/02/2019	Updated to enable the interface of HS2's Bamby St substation (to supply Euston station) to Network Rail's Rugby ECR. Formal trial of the Tracklink RTU using serial DNP3 communications protocol with West Coast Mainline SCADA systems at Rugby and Crewe ECRs. New DNP3 (for both IP and serial) hardware module added to the Product Configuration section.
4	04/09/2019	Updated with the suite of additional IQR modules now available within the Mitsubishi PLC range.

Contact Details

Manufacturer

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General Terms & Conditions

1) General

- 1) This certificate can only be amended by Network Rail Technology Introduction Group. Any alterations made by a different person will invalidate the entire certificate.
- 2) Failure to abide by the requirements in this Certificate of Acceptance may invalidate the certificate, thereby restricting the right to operate the product and / or limiting the future supply and deployment of the product on the infrastructure.
- 3) Upon the review date this certificate and the product it relates to is invalid and not accepted for use. Manufacturers are to make an application for a review prior to the review date.

2) Manufacturer

The Manufacturer shall:

- 1) Ensure that all products supplied comply with the standards defined in the Acceptance Requirements or otherwise documented as part of the assessment, including meeting the reliability requirements included in the Acceptance Requirements and in any deed of warranty for the relevant certificate number.
- 2) Notify Network Rail Technology Introduction Group:
 - a. Within 48 hours, of any deficiencies affecting the quality, functionality or safety integrity of the product (including corrective action undertaken or proposed).
 - b. Of any intended change to the accepted product; changes include:
 - i. a change to the product configuration (to the actual product or its application);
 - ii. a variation to or addition of manufacturing locations or processes;
 - iii. a change in the name or ownership of the manufacturing company;
 - iv. any changes to the ability or intention to support with technical services, spares or repairs.
- 3) The Manufacturer shall provide Network Rail Technology Introduction Group at least 12 (twelve) months notice of its intention to discontinue supply or to provide such notice as is reasonable if such discontinuance is outside its control and will offer the opportunity of a Last Time Buy to Network Rail together with date for last order placement and supply of the parts affected. The introduction of proposed alternative products shall be communicated to the Network Rail Technology Introduction Group.
- 4) Provide further copies of operating and maintenance manuals to purchasers / users of the product as necessary (including certificates of conformance, calibration etc).
- 5) Provide further copies of training manuals and an appropriate level of training to purchasers or users of the product as necessary.
- 6) Where applicable, specialist technical support, repairs and servicing of the product shall be carried out by the Original Equipment Manufacturer (OEM) or authorised agent only.
- 7) Network Rail may request information from the manufacturer to prove product compliance with clauses 1 and 2 above and reserve the right to suspend and/or withdraw any application where information is not forthcoming within a reasonable timeframe.
- 8) In accordance with Network Rail's Quality Assurance Policy Statement 2011, where the specification and/or Product Acceptance Certificates specify quality assurance classifications (QA1 to QA5) for the products, the manufacturer shall comply with the specified level of quality assurance for each product and allow Network Rail access to carry out its quality assurance checks.
- 9) The manufacturer shall give Network Rail's representatives access at all reasonable times to its premises and allow them to inspect its quality systems and production methods and, if requested, to inspect, examine and test the products both during and after their manufacture and the materials being used in their manufacture.

3) Conditions of Use

Specifiers, installers, operators, maintainers, etc. using the product shall:

- 1) Comply with the certificate conditions. If a condition is not understood guidance must be sought from Network Rail Technology Introduction Group.
- 2) Check that the application of use complies with the relevant certificate's scope of acceptance.
- 3) Report any defect if it is a design or manufacturing fault likely to affect performance and/or the safe operation of the railway in writing to Network Rail Technology Introduction Group.
- 4) Inform Network Rail Technology Introduction Group in writing of a change to the product configuration (or to the actual product or its application).
- 5) Operate, maintain and service the product in accordance with Network Rail standards and Operation and Maintenance manuals as appropriate.
- 6) Be appropriately trained and authorised for the installation, maintenance and use of the product.
- 7) Only send products for repair or reconditioning to the Original Equipment Manufacturer (OEM) or authorised agent.
- 8) Users are to be aware that Product Acceptance is not a substitute for design approval.

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4) Compliance

Railways and Other Guided Systems (ROGS) Regulations

1) Where the product is to be used in areas where Network Rail is not the Infrastructure Manager (e.g. leased stations), the sponsor shall additionally obtain formal consent from the Infrastructure Manager for the locality where the equipment is to be installed. This may include a requirement for additional safety verification. The decision of that Infrastructure Manager is binding, and cannot be overridden by Network Rail except by the escalation processes established in the ROGS regulations

2) As required in Railway Group Standard GE/RT8270, at each use of this product the project or group responsible for installation and commissioning shall be required to demonstrate compatibility with:

- a. All rail vehicle types that have access rights over the area affected by the change
- b. Infrastructure managed by others
- c. Neighbours.

Railway Interoperability Regulations

3) For interoperable constituents of systems the project or group responsible for installation and commissioning shall be required to demonstrate compliance with the relevant Technical Specifications for Interoperability (TSI) where appropriate.

4) An authorisation from the national safety authority (i.e. the Railway Safety Directorate of the Office of Rail Regulation) is required before the equipment is to be used in revenue earning service.

5) Supply Chain Arrangements

1) Certificates of acceptance do not imply any particular quantity of supply nor any exclusivity of supply.

2) Products may be purchased by Network Rail or its agents, suppliers or contractors.

3) Manufacturers should note that it is not necessary to enter into any exclusive supply arrangements with resellers or other suppliers.

