

Manufacturer:
Ilecsys Rail

Issue : 4
Valid From : 17/06/2019

Trackside Pre-Wired Boxes with Plug-couplers

Product Description

This certificate covers Pre-Wired Boxes with MIL5015 style Plug-couplers used in accordance with Plug & Play Handbook Module 7.

See preamble in the Product Configuration for a description of the six styles of box.

Product Image



Scope of Acceptance

Full Acceptance

For National use on Plug & Play Projects. To be used in accordance with the Plug & Play Handbook.

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.
Authorised by:

Stephen Rennolds
Technology Introduction Co-ordinator

Jerry Morling
Professional Head of Signal Engineering

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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 or Supplier of Equipment

- 1) Shall only assemble these Disconnection Boxes at their premises in Princes Risborough
- 2) Shall only use Wired Receptacles and Wired Plugs that have been Product Approved and assembled in accordance with NR SE-SK drawings by a Network Rail approved manufacturers (covered by a separate certificate) or otherwise agreed in writing with NR Product Acceptance.
- 3) That for any MIL5015 connector, only Approved Company Parts as per SE-SK Parts Lists drawings are used.
- 4) Shall provide copies of O&M manuals (covering installation, maintenance, testing and tool list) to installers, users & maintainers of the Disconnection Boxes.
- 5) Shall provide copies of Certificates of Conformance, Custody Sequence Record, Delivery Notes, etc. with each Disconnection Box or as otherwise directed by the Signalling Contractor/Network Rail for each Project.
- 6) Shall take note of the General Conditions at rear of document

Signalling Contractors or IP Organisation (Signalling Designers, Specifiers, Installers, Testers)

- 1) Shall provide copies of training manuals/briefing notes and an appropriate level of training/briefing to users & maintainers of the Disconnection Boxes.
- 2) Shall provide copies of O&M manuals (covering installation, maintenance, testing and tool list) to users & maintainers of the Disconnection Boxes.
- 3) Shall provide Certificates of Conformance, Custody Sequence Records, etc. to the users & maintainers
- 4) Shall ensure that the Disconnection Boxes are installed correctly and tested before the signalling system is commissioned.
- 5) Shall ensure Testing Tools (Break-out Boxes etc.) are available to the maintainers.
- 6) Shall be aware that if Wired Plugs and/or Receptacles are damaged or have been tampered with, the entire Disconnection Box must be replaced with a factory assembled unit – on site repair or tampering of Wired Plugs or Receptacles is not permitted. Damaged or failed boxes shall be replaced with complete assemblies and returned to IlecsysRail.
- 7) Shall ensure that trackside Disconnection Boxes mounted using approved mounting equipment.
- 8) Shall ensure that trackside Disconnection Boxes are installed according to the dimensions specified in the manufacturers drawings so that any Interconnects & Leads are not placed under strain, nor do they introduce tripping, fire or other maintenance hazards.
- 9) Shall take note of the General Conditions at rear of document
- 10) Shall ensure the enclosure used is suitable for equipment that is being mounted within the enclosure and meets the integrated products manufactures specification.

Maintenance Organisation (Installers, testers, operators, maintainers, other users etc.)

- 1) Shall be aware that there are no internal spares – damaged or failed boxes shall be replaced with complete assemblies and returned to Ilecsys Rail.
- 2) Shall ensure that removal and replacement of equipment is in accordance with the O&M manuals
- 3) Shall replace damaged cables/plug couplers according to the Plug & Play Guidance Notes.

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4) Shall take note of the General Conditions at rear of document

Product Configuration

There are six styles of “Disconnection Boxes”

‘Plug Coupled Disconnection Boxes’ have Plugs or Receptacles on both sides of the Box. Generally Plugs on the incoming (Loc) side and generally Receptacles on the outgoing (Equipment) side.

‘Interface Boxes’ have Cable Glands on the incoming (Loc) side for hardwiring to the internal Terminals and Plugs or Receptacles on the outgoing (Equipment) side of the Box.

‘Essential Boxes’ Converts one shell size to another shell size and without them the signalling equipment is not functional.

‘Stepdown Boxes’ Converts cable with cores of large cross section areas to cables with cores of smaller cross sectional areas.

‘Equipment Boxes’ Have signalling equipment other than Wired Receptacles and Terminals inside the box, e.g. it may have a transformer. They have Receptacles on both the incoming (Loc) side and outgoing (Equipment) side of the Box which deliberately stops cables being connected together missing out the equipment and causing self-induced faults.

‘Marshalling Boxes’ One or more large Connector splits cores out to two or more smaller Connectors. The cores don’t necessarily map directly across. Generally there are Receptacles on both the incoming (Loc) side and outgoing (Equipment) side of the Box where there is no requirement to connect cables.

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Table 1 Pre-Wired Boxes associated with Plug & Play Handbook Module 7

Ref	Network Rail Wiring Diagram	Ilecsys Part No (Full Assembly)	Full Description	PADS No.	Cert issue
1	SE-SK 1001/01 Rev A	ILS100007-001PC	Plug and Play. 2 Core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices B4; E1; F1 & J1 of PAN/E/SE/PRO/0086]	086/009723	1
2	SE-SK 1002/01 Rev A	ILS100007-001E	Plug and Play. 2 Core Interface Disconnection Box (M25 Gland for use with B2 & D2 Cable from Loc) [Used as shown in Module 7 Appendices B4; E1; F1 & J1 of PAN/E/SE/PRO/0086]	086/009724	1
3	SE-SK 1002/11 Rev A	ILS100007-058E	Plug and Play. 2 Core Interface Disconnection Box (M32 Gland for use with C2 & E2 Cable from Loc) [Used as shown in Module 7 Appendices B4; E1; F1 & J1 of PAN/E/SE/PRO/0086]	086/009725	1
4	SE-SK 1003/01 Rev A	ILS100007-005PC	Plug and Play. 2 Core and Drain (TPWS OSS Arm Loop) Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices B4; D1 & F1 of PAN/E/SE/PRO/0086]	086/009726	1
5	SE-SK 1004/01 Rev A	ILS100007-005E	Plug and Play. 2 Core and Drain (TPWS OSS Arm Loop) Interface Disconnection Box [Used as shown in Module 7 Appendices B4; D1 & F1 of PAN/E/SE/PRO/0086]	086/009727	1
6	SE-SK 1005/01 Rev A	ILS100007-016PC	Plug and Play. 4 Core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices B4; E1 & E2 of PAN/E/SE/PRO/0086]	086/009728	1
7	SE-SK 1006/01 Rev A	ILS100007-016E	Plug and Play. 4 Core Interface Disconnection Box (M25 Gland for use with B2 & D2 Cable from Loc) [Used as shown in Module 7 Appendices B4; E1 & E2 of PAN/E/SE/PRO/0086]	086/009729	1
8	SE-SK 1006/11 Rev A	ILS100007-059E	Plug and Play. 4 Core Interface Disconnection Box (M32 Gland for use with C2 & E2 Cable from Loc) [Used as shown in Module 7 Appendices B4; E1 & E2 of PAN/E/SE/PRO/0086]	086/009731	1
9	SE-SK 1007/01 Rev A	ILS100007-014PC	Plug and Play. 7 Core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices B4; E1 & E2 of PAN/E/SE/PRO/0086]	086/009732	1
10	SE-SK 1008/01 Rev A	ILS100007-014E	Plug and Play. 7 Core Interface Disconnection Box (M32 Gland for use with B2 & D2 Cable from Loc) [Used as shown in Module 7 Appendices B4; E1 & E2 of PAN/E/SE/PRO/0086]	086/009733	1

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Ref	Network Rail Wiring Diagram	Ilecsys Part No (Full Assembly)	Full Description	PADS No.	Cert issue
11	SE-SK 1008/11 Rev A	ILS100007-060E	Plug and Play. 7 Core Interface Disconnection Box (M40 Gland for use with C2 & E2 Cable from Loc) <i>[Used as shown in Module 7 Appendices B4; E1 & E2 of PAN/E/SE/PRO/0086]</i>	086/009734	1
12	SE-SK 1009/01 Rev A	ILS100007-015PC	Plug and Play. 10 Core Plug Coupled Disconnection Box <i>[Used as shown in Module 7 Appendices B4 & E1 of PAN/E/SE/PRO/0086]</i>	086/009735	1
13	SE-SK 1010/01 Rev A	ILS100007-015E	Plug and Play. 10 Core Interface Disconnection Box (M32 Gland for use with B2 & D2 Cable from Loc) <i>[Used as shown in Module 7 Appendices B4 & E1 of PAN/E/SE/PRO/0086]</i>	086/009736	1
14	SE-SK 1010/11 Rev A	ILS100007-061E	Plug and Play. 10 Core Interface Disconnection Box (M40 Gland for use with C2 & E2 Cable from Loc) <i>[Used as shown in Module 7 Appendices B4 & E1 of PAN/E/SE/PRO/0086]</i>	086/009737	1
15	SE-SK 1011/01 Rev A	ILS100007-013PC	Plug and Play. 12 Core Plug Coupled Disconnection Box <i>[Used as shown in Module 7 Appendices B4; D1; E1; E2 & G1 of PAN/E/SE/PRO/0086]</i>	086/009738	1
16	SE-SK 1012/01 Rev A	ILS100007-013E	Plug and Play. 12 Core Interface Disconnection Box (M32 Gland for use with B2 & D2 Cable from Loc) <i>[Used as shown in Module 7 Appendices B4; D1; E1; E2; E3 & G1 of PAN/E/SE/PRO/0086]</i>	086/009739	1
17	SE-SK 1012/11 Rev A	ILS100007-062E	Plug and Play. 12 Core Interface Disconnection Box (M40 Gland for use with C2 & E2 Cable from Loc) <i>[Used as shown in Module 7 Appendices B4; D1; E1; E2; E3 & G1 of PAN/E/SE/PRO/0086]</i>	086/009740	1
18	SE-SK 1013/01 Rev A	ILS100007-040PC	Plug and Play. 16 Core Plug Coupled Disconnection Box <i>[Used as shown in Module 7 Appendices B4 & D1 of PAN/E/SE/PRO/0086]</i>	086/009741	1
19	SE-SK 1014/01 Rev A	ILS100007-040E	Plug and Play. 16 Core Interface Disconnection Box <i>[Used as shown in Module 7 Appendices B4 & D1 of PAN/E/SE/PRO/0086]</i>	086/009742	1
20	SE-SK 1015/01 Rev A	ILS100007-041PC	Plug and Play. 19 Core Plug Coupled Disconnection Box <i>[Used as shown in Module 7 Appendices B4 & J1 of PAN/E/SE/PRO/0086]</i>	086/009743	1
21	SE-SK 1016/01 Rev A	ILS100007-041E	Plug and Play. 19 Core Interface Disconnection Box <i>[Used as shown in Module 7 Appendices B4 & J1 of PAN/E/SE/PRO/0086]</i>	086/009744	1

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Ref	Network Rail Wiring Diagram	Ilecsys Part No (Full Assembly)	Full Description	PADS No.	Cert issue
22	SE-SK 1017/01 Rev A	ILS100007-042PC	Plug and Play. 27 Core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices B4 & J1 of PAN/E/SE/PRO/0086]	086/009745	1
23	SE-SK 1018/01 Rev A	ILS100007-042E	Plug and Play. 27 Core Interface Disconnection Box [Used as shown in Module 7 Appendices B4 & J1 of PAN/E/SE/PRO/0086]	086/009746	1
24	SE-SK 1019/01 Rev A	ILS100007-043PC	Plug and Play. 37 Core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices B4 & J1 of PAN/E/SE/PRO/0086]	086/009747	1
25	SE-SK 1020/01 Rev A	ILS100007-043E	Plug and Play. 37 Core Interface Disconnection Box [Used as shown in Module 7 Appendices B4 & J1 of PAN/E/SE/PRO/0086]	086/009748	1
26	SE-SK 1021/01 Rev A	ILS100007-044PC	Plug and Play. 48 Core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices B4 & J1 of PAN/E/SE/PRO/0086]	086/009749	1
27	SE-SK 1022/01 Rev A	ILS100007-044E	Plug and Play. 48 Core Interface Disconnection Box [Used as shown in Module 7 Appendices B4 & J1 of PAN/E/SE/PRO/0086]	086/009750	1
28	SE-SK 1023/01 Rev A	ILS100007-045PC	Plug and Play. Stepdown from 2 Core 6sqmm or 10sqmm to 2 Core 2.5sqmm Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]	086/009751	1
30	SE-SK 1025/01 Rev A	ILS100007-046PC	Plug & Play. 10 Quad 40 Wire Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009752	1
31	SE-SK 1026/01 Rev A	ILS100007-046E	Plug & Play. 10 Quad 40 Wire Interface Disconnection Box [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009753	1
32	SE-SK 1027/01 Rev A	ILS100007-021PC	Plug and Play MCB-OD. Essential Primary Obstacle Detector (POD) Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix D1(note) of PAN/E/SE/PRO/0086]	086/009754	1
35	SE-SK 1029/01 Rev A	ILS100007-033PC	Plug and Play MCB-OD. High & Low Level Lidar Combined Obstacle Detector (COD) Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix D1 of PAN/E/SE/PRO/0086]	086/009757	1

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36	SE-SK 1030/01 Rev A	ILS100007-033E	Plug and Play MCB-OD. High & Low Level Lidar Combined Obstacle Detector (COD) Interface Box (M32 Gland [7c] & M25 Gland [2c] for use with B2 & D2 Cable from Loc) <i>[Used as shown in Module 7 Appendix D1 of PAN/E/SE/PRO/0086]</i>	086/009758	1
37	SE-SK 1030/11 Rev A	ILS100007-063E	Plug and Play MCB-OD. High & Low Level Lidar Combined Obstacle Detector (COD) Interface Box(M40 Gland [7c] & M32 Gland [2c] for use with C2 & E2 Cable from Loc) <i>[Used as shown in Module 7 Appendix D1 of PAN/E/SE/PRO/0086]</i>	086/009759	1
38	SE-SK 1031/01 Rev A	ILS100007-010PC	Plug & Play Point Machine or HPSS Plug Coupled Disconnection Box <i>[Used as shown in Module 7 Appendix G3 of PAN/E/SE/PRO/0086]</i>	086/009760	1
39	SE-SK 1032/01 Rev A	ILS100007-010E	Plug & Play Point Machine or HPSS Interface Box (M32 Gland [10c] & M25 Gland [4c] for use with B2 & D2 Cable from Loc) <i>[Used as shown in Module 7 Appendix G3 of PAN/E/SE/PRO/0086]</i>	086/009761	1
40	SE-SK 1032/11 Rev A	ILS100007-064E	Plug & Play Point Machine or HPSS Interface Box (M40 Gland [10c] & M32 Gland [4c] for use with C2 & E2 Cable from Loc) <i>[Used as shown in Module 7 Appendix G3 of PAN/E/SE/PRO/0086]</i>	086/009762	1
41	SE-SK 1033/01 Rev A	ILS100007-002PC	Plug & Play 2 x 2 Core Plug Coupled Disconnection Box <i>[Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]</i>	086/009763	1
42	SE-SK 1034/01 Rev A	ILS100007-002E	Plug & Play 2 x 2 Core Interface Box (M25 Gland [2c] for use with B2 & D2 Cable from Loc) <i>[Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]</i>	086/009764	1
43	SE-SK 1034/11 Rev A	ILS100007-065E	Plug & Play 2 x 2 Core Interface Box (M32 Gland [2c] for use with C2 & E2 Cable from Loc) <i>[Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]</i>	086/009765	1
44	SE-SK 1035/01 Rev A	ILS100007-006PC	Plug & Play TPWS OSS Trigger Loop Plug Coupled Disconnection Box <i>[Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]</i>	086/009766	1
45	SE-SK 1036/01 Rev A	ILS100007-006E	Plug & Play TPWS OSS Trigger Loop Interface Box <i>[Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]</i>	086/009767	1

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46	SE-SK 1037/01 Rev A	ILS100007-007PC	Plug & Play TPWS TSS Arming & Trigger Loop Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]	086/009768	1
47	SE-SK 1038/01 Rev A	ILS100007-007E	Plug & Play TPWS TSS Arming & Trigger Loop Interface Box [Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]	086/009769	1
48	SE-SK 1039/01 Rev A	ILS100007-008PC	Plug & Play Points Detection Feed and Return Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices G1 & G3 of PAN/E/SE/PRO/0086]	086/009770	1
49	SE-SK 1040/01 Rev A	ILS100007-008E	Plug & Play Points Detection Feed and Return Interface Box (M25 Gland [4c] for use with B2 & D2 Cable from Loc) [Used as shown in Module 7 Appendices G1 & G3 of PAN/E/SE/PRO/0086]	086/009771	1
50	SE-SK 1040/11 Rev A	ILS100007-066E	Plug & Play Points Detection Feed and Return Interface Box (M32 Gland [4c] for use with C2 & E2 Cable from Loc) [Used as shown in Module 7 Appendices G1 & G3 of PAN/E/SE/PRO/0086]	086/009772	1
51	SE-SK 1041/01 Rev B	ILS100007-009PC	Plug & Play SO Backdrive Detection Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix G3 of PAN/E/SE/PRO/0086]	086/009773	1
54	SE-SK 1043/01 Rev B	ILS100007-025PC	Plug & Play BR817 Power Pack for RCPL/IBCL with Detection Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix G1 of PAN/E/SE/PRO/0086]	086/009774	1
55	SE-SK 1044/01 Rev A	ILS100007-025E	Plug & Play BR817 Power Pack for RCPL/IBCL with Detection Interface Box (M32 Gland [12c] & M25 Gland [4c] for use with B2 & D2 Cable from Loc) [Used as shown in Module 7 Appendix G1 of PAN/E/SE/PRO/0086]	086/009775	1
56	SE-SK 1044/11 Rev A	ILS100007-067E	Plug & Play BR817 Power Pack for RCPL/IBCL with Detection Interface Box (M40 Gland [12c] & M32 Gland [4c] for use with C2 & E2 Cable from Loc) [Used as shown in Module 7 Appendix G1 of PAN/E/SE/PRO/0086]	086/009776	1
57	SE-SK 1045/01 Rev B	ILS100007-012PC	Plug & Play HyDrive >50 metres Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix G2 of PAN/E/SE/PRO/0086]	086/009777	1

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Ref	Network Rail Wiring Diagram	Ilecsys Part No (Full Assembly)	Full Description	PADS No.	Cert issue
58	SE-SK 1046/01 Rev B	ILS100007-012E	Plug & Play Essential HyDrive >50metres with Condition Monitoring & Detection Interface Box (M32 Gland [2c (10sqmm) & 12c] & M25 Gland [4c] for use with B2 & D2 Cable from Loc) [Used as shown in Module 7 Appendix G2 of PAN/E/SE/PRO/0086]	086/009778	1
60	SE-SK 1047/01 Rev A	ILS100007-031PC	Plug & Play 7-core to 12-core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix E3 of PAN/E/SE/PRO/0086]	086/009780	1
61	SE-SK 1048/01 Rev A	ILS100007-023PC	Plug and Play MCB-OD. Individual Combined Obstacle Detector (COD) Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix D1 of PAN/E/SE/PRO/0086]	086/009781	1
62	SE-SK 1049/01 Rev A	ILS100007-023E	Plug and Play MCB-OD. Individual Combined Obstacle Detector (COD) Interface Box (M32 Gland [7c] & M25 Gland [2c] for use with B2 & D2 Cable from Loc) [Used as shown in Module 7 Appendix D1 of PAN/E/SE/PRO/0086]	086/009782	1
63	SE-SK 1049/11 Rev A	ILS100007-069E	Plug and Play MCB-OD. Individual Combined Obstacle Detector (COD) Interface Box (M40 Gland [7c] & M32 Gland [2c] for use with C2 & E2 Cable from Loc) [Used as shown in Module 7 Appendix D1 of NR]	086/009783	1
64	SE-SK 1059/01 Rev A	ILS100007-047PC	Plug & Play 5 Quad 20 Wire Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009784	1
65	SE-SK 1060/01 Rev A	ILS100007-047E	Plug & Play 5 Quad 20 Wire Interface Disconnection Box [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009785	1
66	SE-SK 1061/01 Rev A	ILS100007-028PC	Plug & Play 2 Aspect Red/Green Signal 4 core to 12 core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix E3 of PAN/E/SE/PRO/0086]	086/009786	1
67	SE-SK 1062/01 Rev A	ILS100007-029PC	Plug & Play 2 Aspect Yellow/Green Signal 4 core to 12 core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix E3 of PAN/E/SE/PRO/0086]	086/009787	1
68	SE-SK 1063/01 Rev A	ILS100007-030PC	Plug & Play 2 Aspect Red/Yellow Signal 4 core to 12 core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix E3 of PAN/E/SE/PRO/0086]	086/009788	1

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69	SE-SK 1064/01 Rev A	ILS100007-048PC	Plug & Play Single Aspect Red Signal 2 core to 12 core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix E3 of PAN/E/SE/PRO/0086]	086/009789	1
70	SE-SK 1065/01 Rev A	ILS100007-048E	Plug & Play Single Aspect Yellow Signal 2 core to 12 core Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix E3 of PAN/E/SE/PRO/0086]	086/009790	1
71	SE-SK 1066/01 Rev B	ILS100007-034PC	Plug and Play MCB-OD. Optional Primary Obstacle Detector (POD) Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix D1 of PAN/E/SE/PRO/0086]	086/009791	1
74	SE-SK 1068/01 Rev A	ILS100007-049PC	Plug & Play Star Quad or 2 Pair AZLM Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices H1 & J2 of PAN/E/SE/PRO/0086]	086/009792	1
75	SE-SK 1069/01 Rev A	ILS100007-049E	Plug & Play – Star Quad or 2 Pair AZLM Interface Box [Used as shown in Module 7 Appendices H1 & J2 of PAN/E/SE/PRO/0086]	086/009793	1
76	SE-SK 1070/01 Rev A	ILS100007-050PC	Plug & Play 10 Pair AzLM 20 Wire Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009794	1
77	SE-SK 1071/01 Rev A	ILS100007-050E	Plug & Play 10 Pair AzLM 20 Wire Interface Disconnection Box (0.9mm wire) [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009795	1
78	SE-SK 1071/11 Rev A	ILS100007-070E	Plug & Play 10 Pair AzLM 20 Wire Interface Disconnection Box (1.4mm wire) [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009796	1
79	SE-SK 1073/01 Rev A	ILS100007-051PC	Plug & Play Stepdown From 2 Core 2.5sqmm and 6/10sqmm 2 Core to 2 x 2 Core 2.5sqmm Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]	086/009797	1
81	SE-SK 1075/01 Rev A	ILS100007-004PC	Plug & Play AWS 10sqmm Electro/Suppressor Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix F1 of PAN/E/SE/PRO/0086]	086/009798	1
83	SE-SK 1077/01 Rev A	ILS100007-052PC	Plug & Play 4 Core Points Return Detection Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix B4 of PAN/E/SE/PRO/0086]	086/009799	1

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Ref	Network Rail Wiring Diagram	Ilecsys Part No (Full Assembly)	Full Description	PADS No.	Cert issue
84	SE-SK 1078/01 Rev A	ILS100007-052E	Plug & Play 4 Core Points Return Detection Interface Box (M25 Gland [4c] for use with B2 & D2 Cable from Loc) [Used as shown in Module 7 Appendix B4 of PAN/E/SE/PRO/0086]	086/009800	1
85	SE-SK 1078/11 Rev A	ILS100007-072E	Plug & Play 4 Core Points Return Detection Interface Box (M32 Gland [4c] for use with C2 & E2 Cable from Loc) [Used as shown in Module 7 Appendix B4 of PAN/E/SE/PRO/0086]	086/009801	1
86	SE-SK 1081/01 Rev A	ILS100007-053PC	Plug & Play Barrier Obstacle Detector (BOD) Essential Plug Coupled Equipment Box [Used as shown in Module 7 Appendix D1(note) of PAN/E/SE/PRO/0086]	086/009802	1
89	SE-SK 1086/01 Rev A	ILS100007-054E	Plug & Play 3 Quad 12 Wire Plug Coupled Disconnection Box [Used as shown in Module 7 Appendices J1 & J2 of PAN/E/SE/PRO/0086]	086/009803	1
90	SE-SK 1087/01 Rev A	ILS100007-055PC	Plug & Play 3 Quad 12 Wire Interface Box [Used as shown in Module 7 Appendices J1 & J2 of PAN/E/SE/PRO/0086]	086/009804	1
91	SE-SK 1088/01 Rev A	ILS100007-055E	Plug & Play 7 Quad 28 Wire Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009805	1
92	SE-SK 1089/01 Rev A	ILS100007-056PC	Plug & Play 7 Quad 28 Wire Interface Box [Used as shown in Module 7 Appendix J2 of PAN/E/SE/PRO/0086]	086/009806	1
93	SE-SK 1090/01 Rev A	ILS100007-056E	Plug & Play 2 Core 6sqmm or 10sqmm Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix J1 of PAN/E/SE/PRO/0086]	086/009807	1
95	SE-SK 1093/01 Rev A	ILS100007-076E	Plug & Play - 2 core 16sqmm OR 25sqmm Plug Coupled Disconnection Box [Used as shown in Module 7 Appendix J1 of PAN/E/SE/PRO/0086]	086/009808	1
96	SE-SK 1289	ILS100007-076PC	160421-347 Plug and Play Modular Barrier M/C & RTL Plug Coupled Equipment Box.	086/009810	3

Manufacturer:
Ilecsys Rail

Issue : 4
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Table 2 Dis Boxes for Plug & Play with Points Detection Isolation

Ref	Network Rail Drg No.	Ilecsys Part No	Full Description	PADS No.	Cert issue
1	SE-SK 1050/01 Rev B	ILS100007-017PC	Plug Coupled Detection Isolation Switch Box for Point Machine (without Stake)	086/074521	1
2	SE-SK 1050/01 Rev B	ILS100007-017PCS	Plug Coupled Detection Isolation Switch Box for Point Machine (with Stake)	086/074522	1

Table 3 Quadrant Marshalling box for Level crossings

Ref	Network Rail Drg No.	Ilecsys Part No	Full Description	PADS No.	Cert issue
1	SE-SK 1290/01 Rev A	ILS100007-077PC	Plug Coupled Quadrant Marshalling Box for Level crossings (Full Assembly)	086/009809	3

Table 4 Quadrant Marshalling box for Rail Clamp Point Lock

Ref	Network Rail Drg No.	Ilecsys Part No	Full Description	PADS No.	Cert issue
1	SE-SK 1293	ILS100406	160427 – 373 RCPL Marshalling Plug Coupled Disconnection Box	086/009811	3

Table 5 TDEU Containment System Interface Plate and Disconnection Box

Note: For Cables and Interconnects see PA05/07026 (Plugs and Receptacles) and PA05/07151 (Leads and Interconnects)

Ref	Network Rail Drg No.	Ilecsys Part No	Full Description	PADS No.	Cert issue
1	N/A	100007 – 78E	TDEU Plug Coupled Dis Box	0086/009812	4
2	N/A	181218-2725	Coupler Interface Plate (CIP)	0086/009813	4

Manufacturer:
Ilecsys Rail

Issue : 4
Valid From : 17/06/19

Assessed Documentation

Table A Network Rail Configuration Documents

Ref	Network Rail Reference	Title	Doc Date	Cert issue
All the SE-SK Drawings listed in Tables 1, 2 and 3.				1

Table B Network Rail Process Documents

Ref	Network Rail Reference	Doc. Rev.	Title	Doc Date	Cert issue
1	NR/L2/SIG/30027	2	Product Specification - Plug Couplers for Connection of Cables to Lineside Signalling Equipment	04-12-2010	3
2	PAN/E/SE/PRO/0086	--	Signalling 'Plug and Play' Requirements	12-04-2013	3
3	51897-PH7-GP4-FPS-001-Part-N4	1	Product Approval Compliance Report 3 (PACR) PA05/07026 – for Trial Release Version T1	30/12/2018	4
4	Network Rail Audit - 1849 - iLeccsys Rail	-	Supplier Quality Assurance (SQA) Team Audit of Ileccsys Rail	25/01/2019	4

Certificate History

Issue	Date	Issue History
1	21/08/2015	1 st Full Certificate issued to cover all Disconnection Boxes listed in Module 7 of Plug & Play Handbook.
2	28-04-2015	Item 59 in Table 1 removed and Table 3 added
3	27/09/2016	<p>Addition of:</p> <p>160421-347 Plug and Play Modular Barrier M/C & RTL Plug Coupled Equipment Box. (ref 96 in table 1 item 086/009810).</p> <p>Marshalling box for RCPL (ref 1 table 4 item 086/009811).</p> <p>Corrected Ileccsys part number for :</p> <p>Quadrant Marshalling box for Level crossings (ref 1 table 3 item 086/009809)</p>
4	17/06/2019	Addition of TDEU Containment System Interface Plate and Dis Box (Table 5). These parts have been transferred from PA05/07026.

Certificate of Acceptance

PA05/06461

Manufacturer:
Ilecsys Rail

Issue : 4
Valid From : 17/06/19

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Manufacturer:
Ilecsys Rail

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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.

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.

Certificate of Acceptance

PA05/06461

Manufacturer:
Ilecsys Rail

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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.