



**NS1060.03 POINT TYPE AUTOMATIC FIRE/SMOKE
DETECTION SYSTEM
SIL-2 CERTIFIED TO EN 50126,
EN 50128, EN 50129, EN 50155, EN54-20, EN54-7, EN54-5,
EN 45545 HL-3 FOR
RAILWAY APPLICATION AS PER RDSO SPECIFICATION:
RDSO/PE/SPEC/EMU/0163**

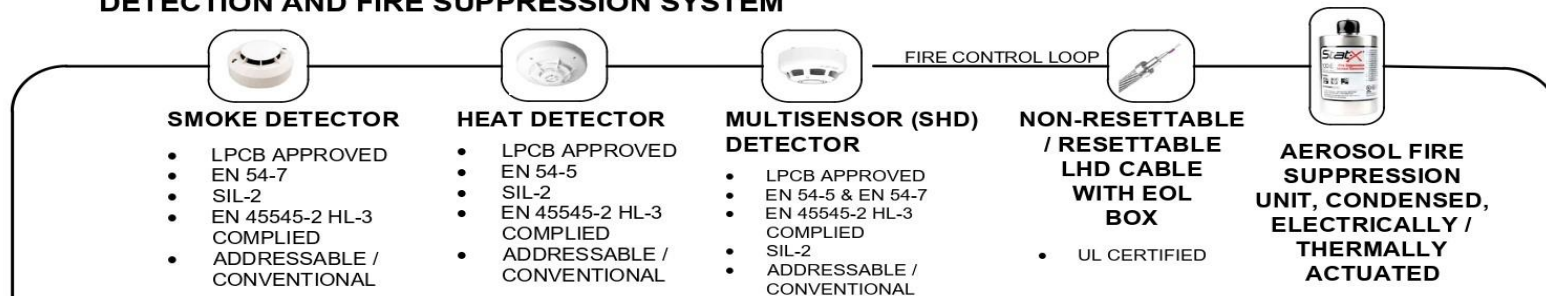
TECHNICAL CATALOGUE



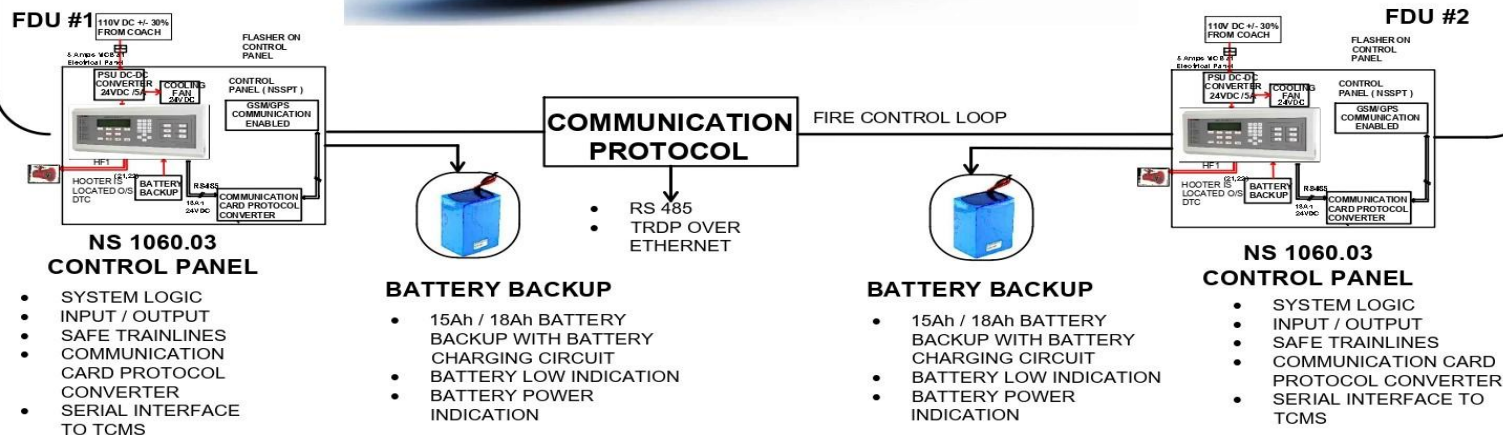


SYSTEM ARCHITECTURE FOR NS 1060.03 POINT BASED FDS

DETECTION AND FIRE SUPPRESSION SYSTEM

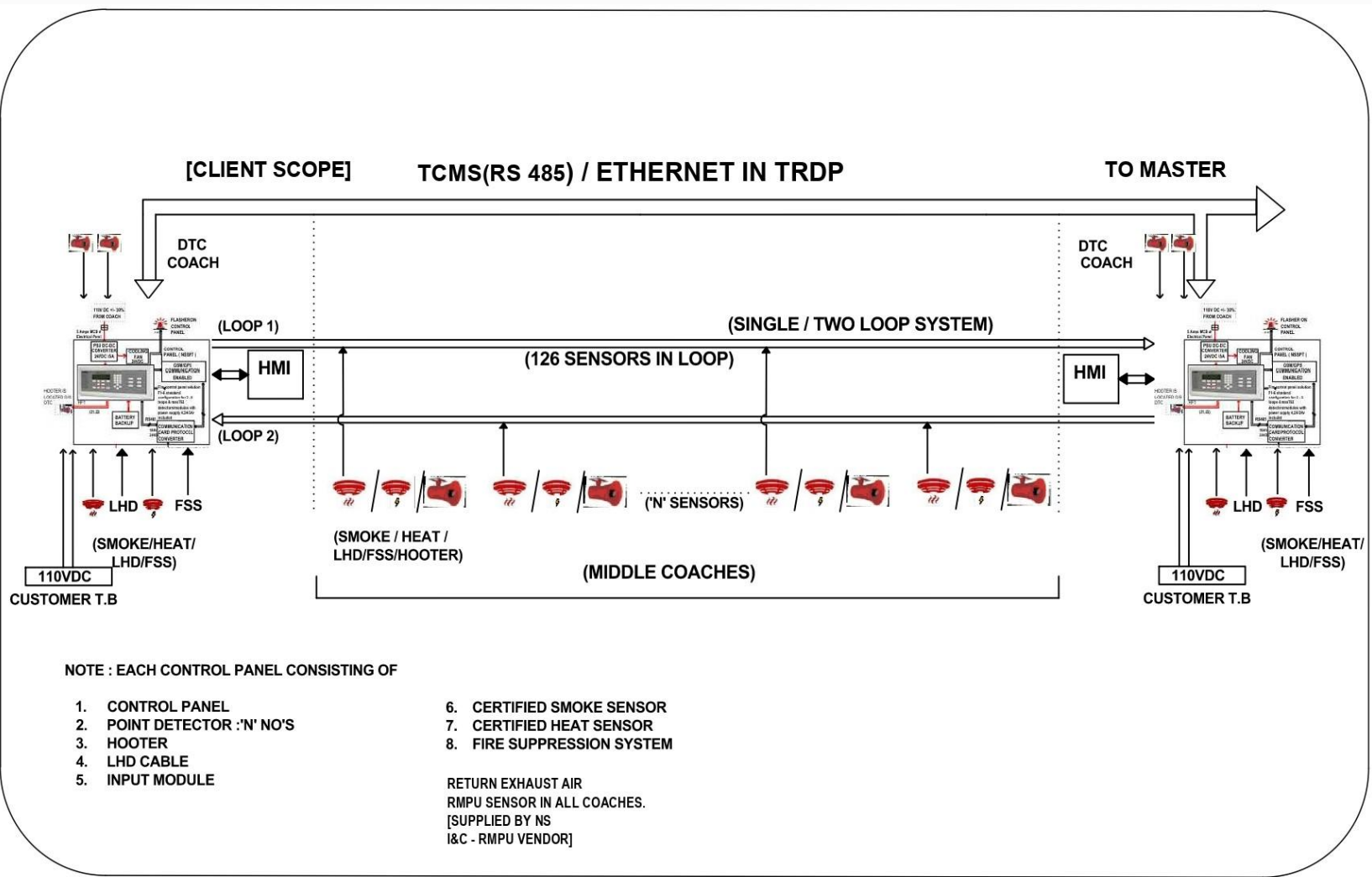


SYSTEM CONTROL



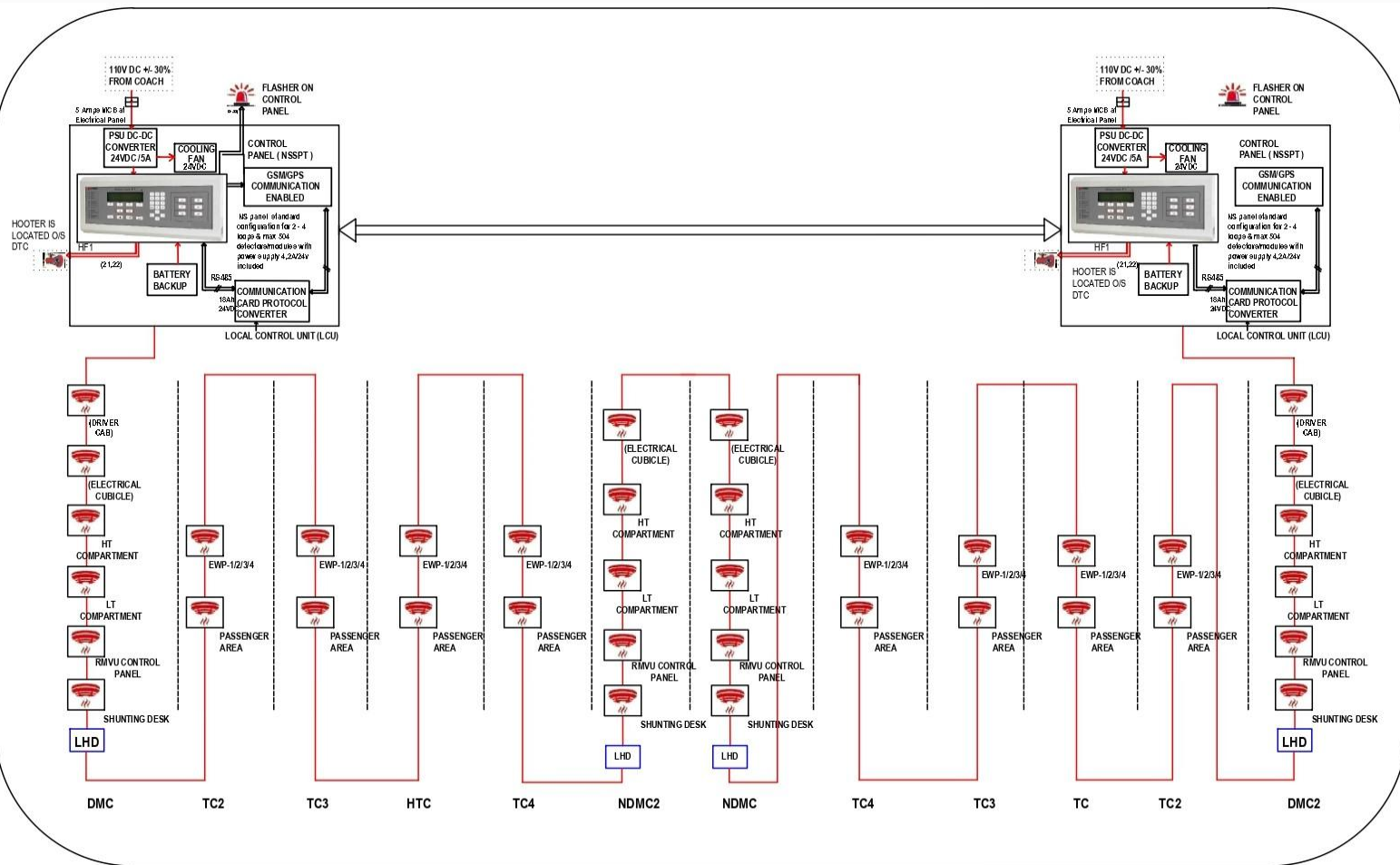


RAKE FORMATION –POINT BASED FDS



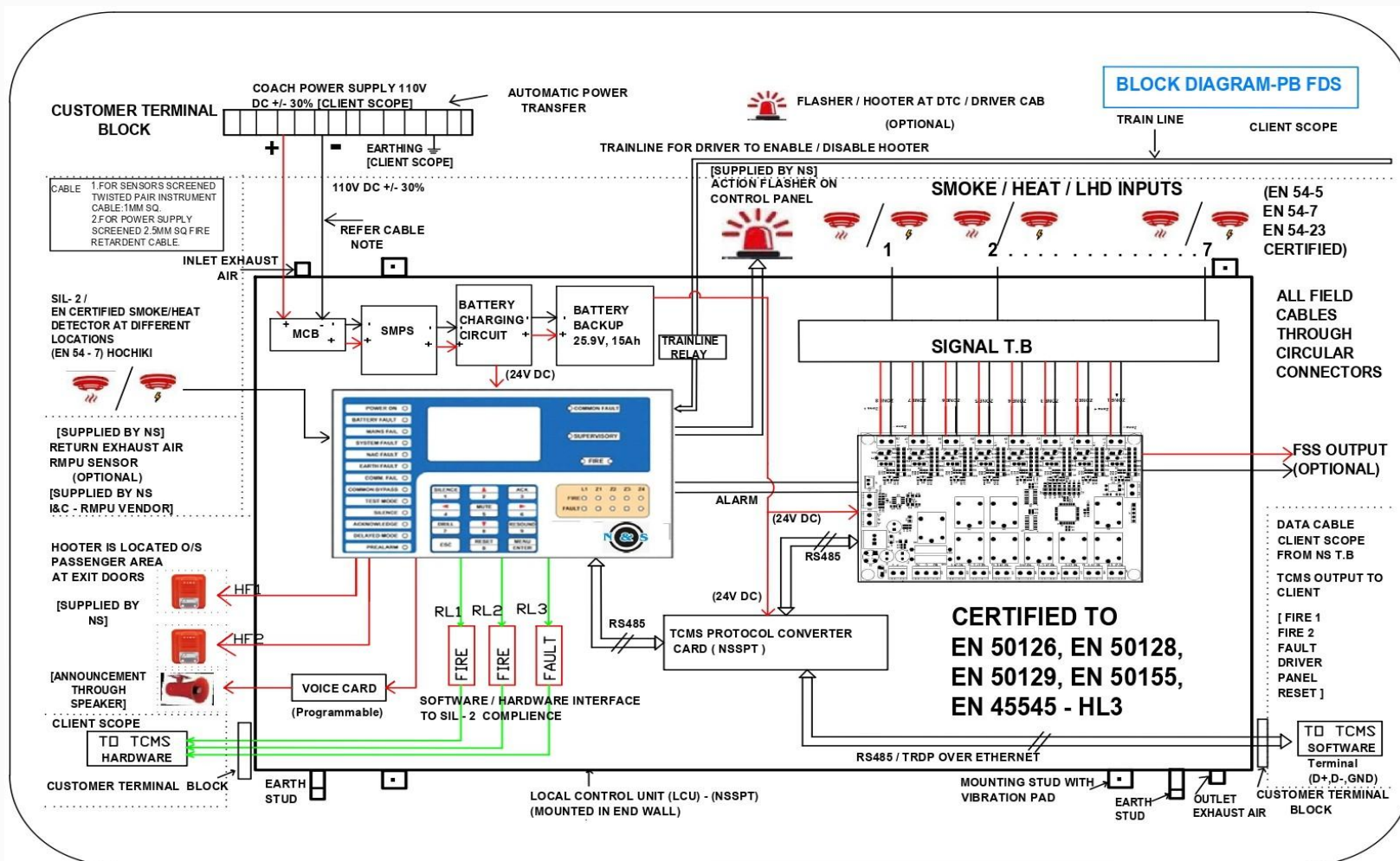


SENSOR SCHEMATIC – POINT BASED FDS



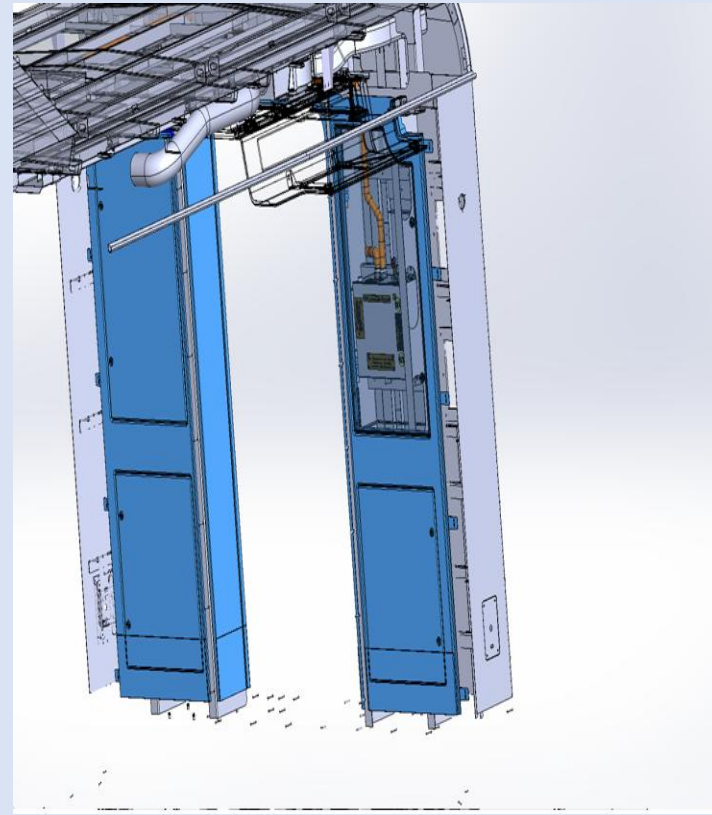
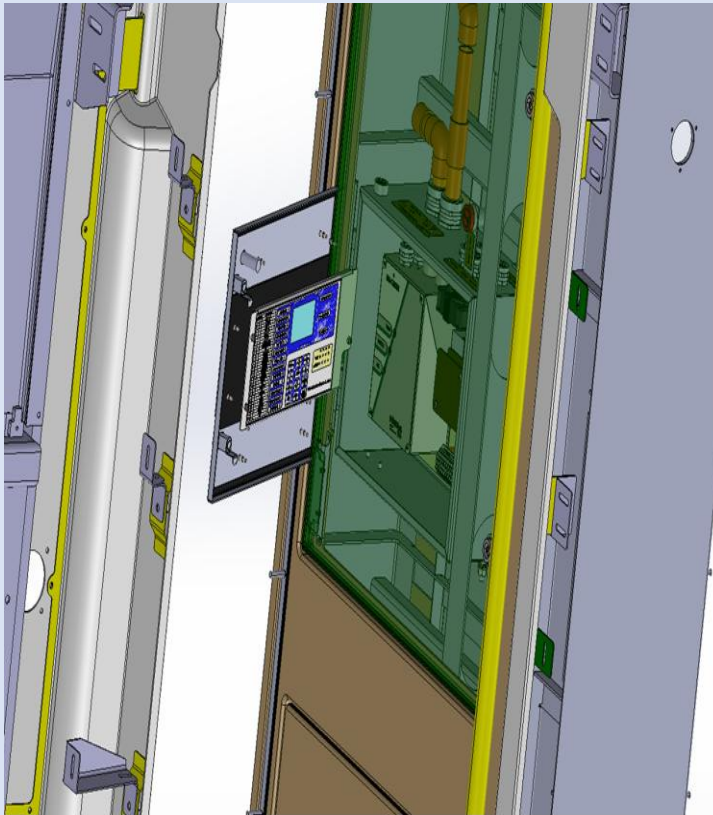


A vertical collage of four images showing different high-speed trains. The top image shows a red and white train with a streamlined nose. The second image shows a blue and white train traveling on a track through a green landscape. The third image shows a blue and white train with its headlights on, traveling on a track. The bottom image shows a blue and white train on a track, viewed from a distance.



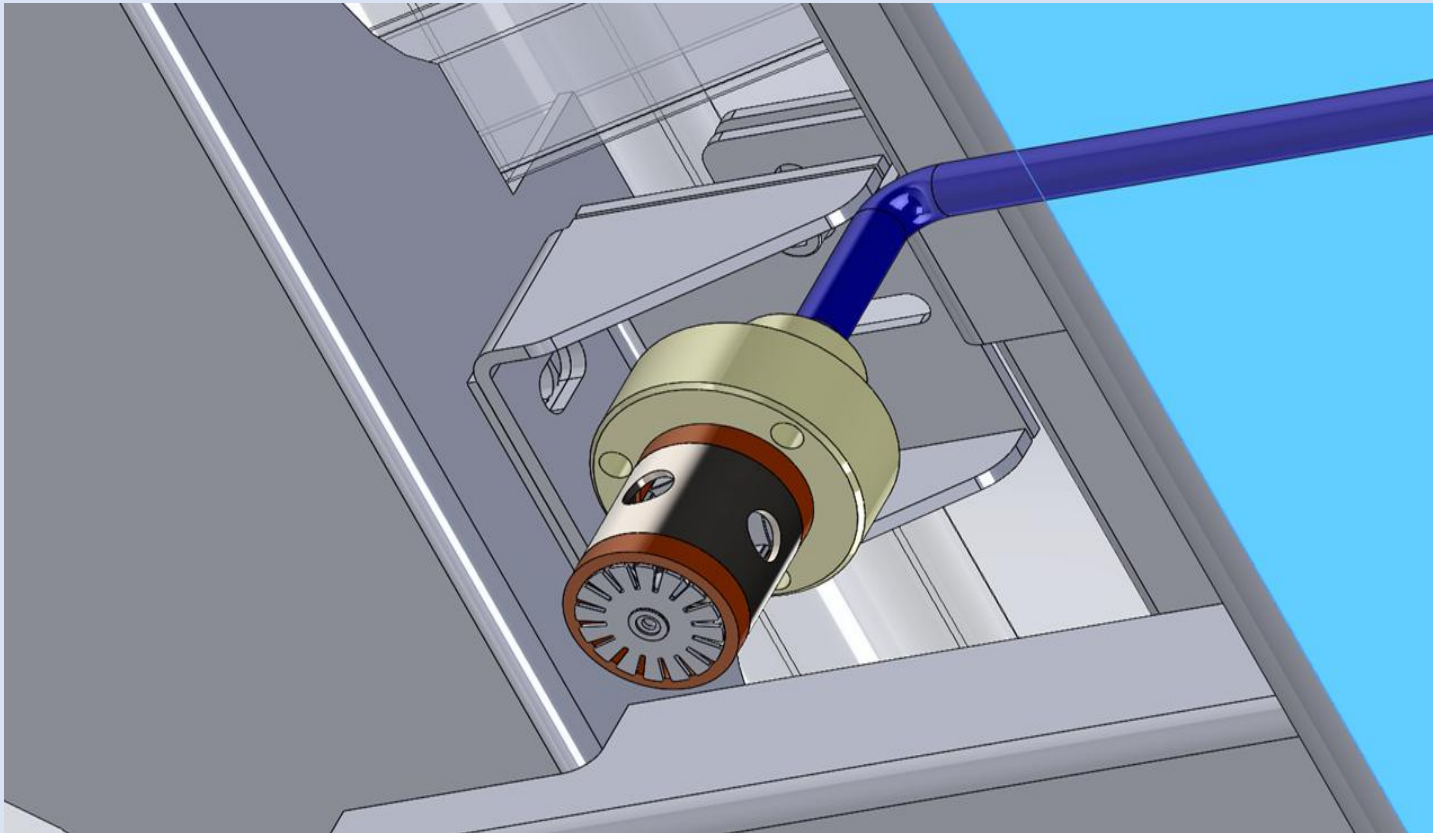


3D MODELLING VISUALIZATION OF POINT BASED SYSTEM



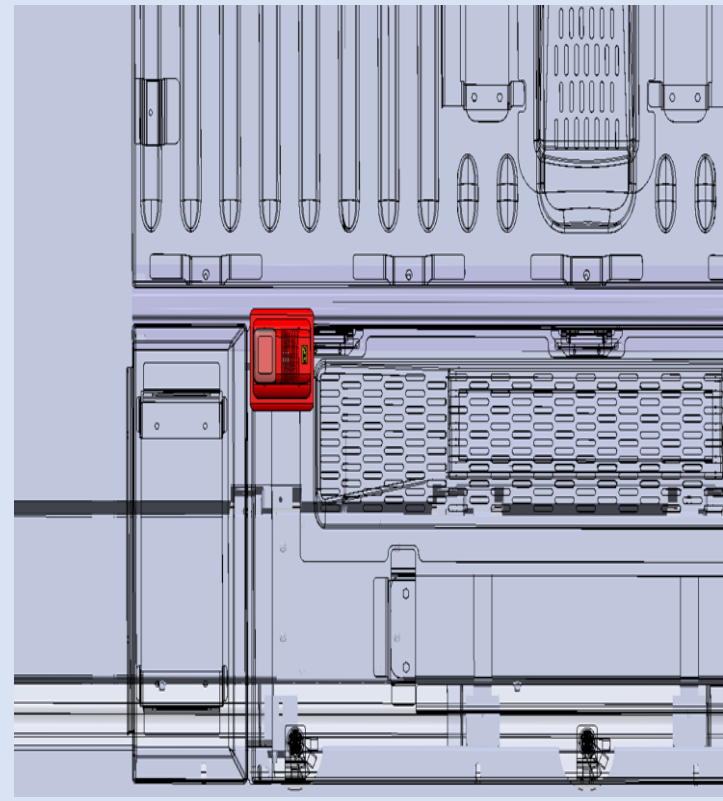
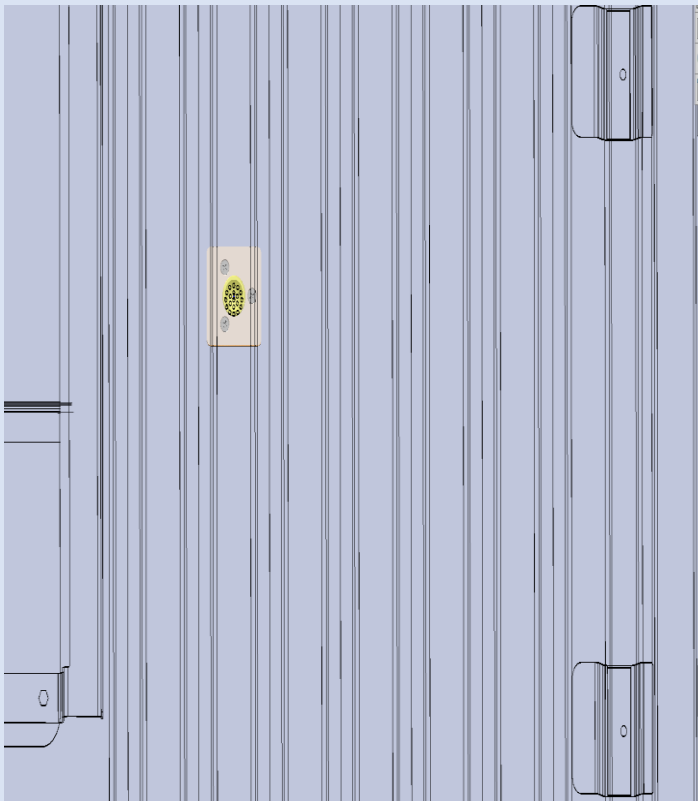


3D MODELLING VISUALIZATION OF POINT BASED SYSTEM





3D MODELLING VISUALIZATION OF POINT BASED SYSTEM



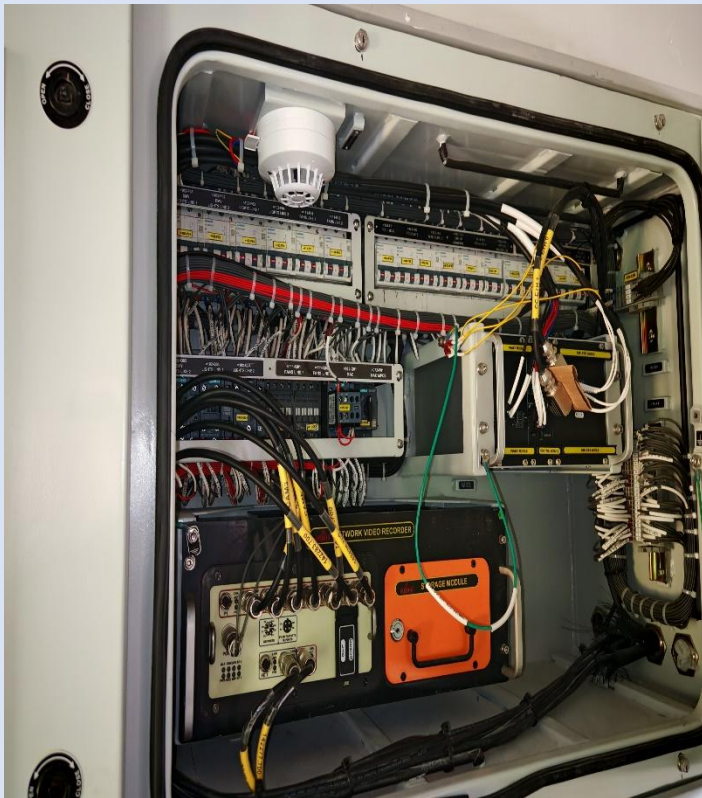


ACTUAL REPRESENTATION OF POINT DETECTORS IN DIFFERENT PANELS OF COACH





ACTUAL REPRESENTATION OF POINT DETECTORS IN DIFFERENT PANELS OF COACH





INTRODUCTION

- N&S Solutions specializes in the design, manufacture, installation, testing, and commissioning of Fire Detection (FDS) and Suppression Systems (FDSS) for the Railway Industry.
- The Fire Detection and Suppression System (FDSS) is an advanced safety solution designed to detect fire and/or smoke at an early stage and automatically suppress fire incidents. The system integrates fire detection sensors, a control unit, alarm and indication systems, and automated response mechanisms, with provision for integration with the train braking system to automatically stop the train in the event of a fire emergency.
- The N&S Fire Detection and Suppression System employs advanced fire detection technologies, including aspiration-based detection, point-type detection systems, and hybrid fire detection solutions, ensuring reliable and rapid fire detection across various railway applications.
- NS FDS design includes the scope of provision of conventional and addressable zones, LHD cable modules, Aerosol suppression system and cables meeting technical and statutory requirements for the installation of FDS.

POINT BASED DETECTION TECHNOLOGY

- The Point based Fire and Smoke Detection system is designed, supplied, installed, tested and commissioned in accordance with applicable RDSO guidelines and relevant international standards used in Railway Rolling Stock.
- NS Fire Detection and Suppression system comprises of a loop of certified point type smoke / heat detectors connected to a Fire/Smoke Control Unit with Alarm and Indication devices with necessary interfacing modules.





FEATURES OF NS 1060.01 FIRE DETECTION AND SUPPRESSION SYSTEM

The system supports the following operational features:

- LED indications for various modes on front panel.
- Supports English, Hindi or Tamil languages supported.
- Local buzzer indication for fire & and fault.
- 12 key keypads for configuration and programming the system.
- Provision of Conventional 4 zones
- Optional Stand by battery backup of up to 24hrs.
- Real time clock.
- Normal fire detection
- Testing modes (Walk test, Loop Test, Device Test).
- One Notification Appliance Circuits (NAC) output for Siren.
- Three PFC outputs (1 Fire, 1 Fault output, One1 PFC reserved for future use)
- Admin and user password protected system operations and functions.
- Optional Built in GSM Auto dialer connectivity. (Support up to 10 mobile numbers).
- MODBUS /connectivity.
- Complies with RDSO Specification: RDSO/PE/SPEC/EMU-0163





- Tested & certified at NABL Lab to IEC60571/EN50155
- Enclosure SS304 to IP 64.
- Point type detectors certified to EN 54-5 & EN 54-7.
- Provision of UL certified LHD cable – Digital type or Analogue type.
- Programmable 3/4 Alarm levels.
- Remote Hooter, Driver enable / disable system.
- Provision for remote reset from Driver cab.
- Provision for software hardware panel reset.
- TCMS connectivity / RS 485 / Ethernet over TRDP / IOT.
- System runs on 24VDC/5A.
- Provision for DC-DC converter 110V $\pm 30\%$ to 24V DC
- Simulation and self-diagnostic.
- SIL-2 redundancy hardware, software, faults and smoke alarms.
- Option of Lithium-ion Battery upto 15 / 18Ah capacity.
- Use of Aluminium and SS304 for all metal parts.





TECHNICAL SPECIFICATION FOR SUBSYSTEMS OF POINT BASED FDS

➤ ACC-EN / SIL



ACC-EN/SIL

Analogue Multi-Sensor

Features

- ▶ SIL Level 2 approved
- ▶ Ideal for use in oil and gas environments
- ▶ User selectable modes
- ▶ Incorporates Optical & Heat elements
- ▶ Removable, High Performance Chamber
- ▶ Pulsing/non-pulsing controlled from panel
- ▶ Twin LEDs allow 360° viewing – green when polling, amber when isolating, red in fire
- ▶ Variable sensitivity
- ▶ Electronically Addressed

Description

Model ACC-EN/SIL is a Multi-Sensor, which has been independently assessed and approved for use in a SIL2, low demand safety function with regards to random failure rates.

The ACC-EN/SIL has three modes, which are controlled from the Control Panel, allowing either the optical element or thermal element or both elements to be active in making the fire decision. The sensor polling LEDs can be controlled via the Control Panel (pulsing/non-pulsing). The ACC-EN/SIL smoke chamber can easily be removed or replaced for easy maintenance.



Specification

Operating Voltage	17 – 41 VDC
Low Power Mode (typ)	120 µA
Quiescent Current (typ)	400 µA
Alarm Current (controlled by CIE)	9.1 mA (excluding remote indicator)
Transmission Method	Digital Communications Using ESP
Operating Temperature Range	-10 °C to + 50 °C
Operating Humidity	95% RH - Non Condensing (at 40 °C)
Storage Temperature Range	-30 °C to +60 °C
Storage Humidity	<80% RH at 60 °C
Colour / Case Material	Ivory or White / Polycarbonate
Weight (g)	95
Diameter (mm) / Height (mm)	100 / 45
Base Fixing Centres (mm)	48 – 74
Compatible Bases	YBO-BS, YBO-BSB2, YBN-R/3(SCI)

*Control Panel compatibility required



➤ ATJ-EN / SIL



ATJ-EN/SIL

Analogue Heat Sensor

Features

- SIL Level 2 approved
- Ideal for use in oil and gas environments
- User selectable modes
- Incorporates Fixed Temperature and Rate of Rise Heat elements
- Twin LEDs allow 360° viewing – green when polling, amber when isolating, red in fire
- Pulsing/non-pulsing controlled from panel*
- Electronically Addressed
- LPCB & Vds approved to Classes A1, B & C

Description

Model ATJ-EN/SIL is a Heat Sensor, which has been independently assessed and approved for use in a SIL2, low demand safety function with regards to random failure rates.

The ATJ-EN/SIL incorporates a Variable Temperature heat element and a Rate of Rise heat element, both of which are controlled from the Control Panel, allowing either thermal element or both elements simultaneously to be active in making the fire decision. The sensor polling LEDs can also be controlled via the Control Panel (pulsing/non-pulsing)*.

ATJ-EN/SIL



ATJ-EN(WHT)/SIL



Specification

Operating Voltage	17 – 41 VDC
Low Power Mode (typ)	110 µA
Quiescent Current (typ)	350 µA
Alarm Current (controlled by CIE)	9.1 mA (excluding remote indicator)
Transmission Method	Digital Communications Using ESP
Operating Temperature Range	-10 °C to + 50 °C
Operating Humidity	95% RH - Non Condensing (at 40 °C)
Storage Temperature Range	-30 °C to +60 °C
Storage Humidity	<80% RH at 70 °C
Colour / Case Material	Ivory or White / Polycarbonate
Weight (g)	95
Diameter (mm) / Height (mm)	100 / 45
Base Fixing Centres (mm)	48 ~ 74
Compatible Bases	YBO-BS, YBO-BSB2, YBN-R/3(SCI)

*Control Panel compatibility required



➤ SOC-E-IS

SOC-E-IS

Intrinsically Safe Conventional Smoke Detector

Features

- ▶ Removable, high performance chamber
- ▶ Automatic Sensitivity Window Verification (ASWW) - Drift Compensation Technology
- ▶ Remote Indicator output
- ▶ Wide voltage range (9.5 ~ 30 VDC)
- ▶ Low profile design with one piece outer cover
- ▶ Single fire LED - 360° viewing
- ▶ ATEX Classification to:
 - Ex ia IIC T5 Ga (-20°C ≤ Ta ≤ +55°C)
- ▶ Suitable for installation in areas at Category 1 (inc all lower categories)
- ▶ Approved by LPCB, VdS and DNV.



Description

The SOC-E-IS is a photoelectric smoke detector, which is fully compatible with the majority of existing conventional systems. The SOC-E-IS incorporates Hochiki's unique high performance photoelectric smoke chamber removing the need to use ionisation detectors in the majority of applications.

'ASWW' Drift Compensation technology is incorporated to ensure the Detector

is operating at its optimum sensitivity and therefore reducing potential false alarms. If the contamination limit is exceeded then the integral red LED will flash once every three seconds to give a visual warning. The smoke chamber is easily removed or replaced for cleaning and utilises a unique baffle design which allows smoke to enter the chamber whilst keeping out ambient light.

Specification

Ordering codes	SOC-E-IS - Ivory / SOC-E-IS(WHT) - White
Compatible base	YBN-R/4 (IS)
Operating voltage	12 - 30 VDC
Quiescent current (typ)	35 µA
Maximum current in alarm	40 mA
Out of sensitivity current (RED flashing LED)	120 µA
Remote indicator drive	20 mA (max)
Operating temperature range	-20°C to +55°C
Storage temperature range	-30°C to +60°C
Maximum humidity	95% RH - Non condensing (at 40°C)
Ingress protection rating	IP42
Colour / case material	Ivory or White / ABS
Weight (g) / dimensions (mm)	106 / ø 100 x H 48
Approvals	LPCB VdS Bassefa 19ATEX0143X IECEx BAS 19.0122X DNV
ATEX certification	Certificate number: BASEEFA19ATEX0143X EC
LPCB certification	Intrinsic Safety to classification Ex ia IIC T5 Ga (-20°C ≤ Ta ≤ +55°C)
Other certification	EN 54-7:2018
	VdS (G220019), DNV, Intertek



➤ SOC-E-3N

Features

- ▶ Removable, High Performance chamber
- ▶ Automatic Sensitivity Window Verification (ASWV) – Drift Compensation Technology
- ▶ Remote Indicator output
- ▶ Wide voltage range (12 ~ 30 VDC)
- ▶ Low profile design with one piece outer cover
- ▶ Single fire LED - 360° viewing
- ▶ Range of mounting bases
- ▶ Approved by LPCB.



Description

The SOC-E3N is a Photoelectric Smoke Detector, which is fully compatible with the majority of existing Conventional systems. The SOC-E3N incorporates Hochiki's unique High Performance photoelectric smoke chamber removing the need to use Ionisation Detectors in the majority of applications.

'ASWV' Drift Compensation technology is incorporated to ensure the Detector is operating at its optimum sensitivity and therefore reducing potential false alarms. If the contamination limit is exceeded then the integral red LED will flash once every three seconds to give a visual warning. The smoke chamber is easily removed or replaced for cleaning and utilises a unique baffle design which allows smoke to enter the chamber whilst keeping out ambient light.

Specification

Ordering codes	SOC-E3N - Ivory / SOC-E3N(WHT) - White / SOC-E3N(BLK) - Black SLV/ALK - Replacement chamber
Operating voltage	12 – 30 VDC
Quiescent current (typical)	35 µA
Maximum current alarm	40 mA
Remote indicator drive	20 mA (max)
Operating Temperature Range	-10 °C to +50 °C
Storage Temperature Range	-30 °C to +60 °C
Maximum humidity	95% RH - Non-condensing (at 40°C)
IP rating	IP42
Colour / Case material	Ivory, White or Black / ABS
Compatible bases	YBN-R/6, YBN-R/6SK, YBO-R/6R, YBO-R/6RS, YBO-R/6RN, YBO-R/6PA
Base fixing centres (mm)	48 ~ 74
Weight (g) / Dimensions (mm)	95 (excluding base) / ø 100 x H 38
Sensitivity	4% obs/m
Approvals	LPCB EN54: Part 7



➤ DCD-AE3

DCD-AE3

Conventional Combined Rate of Rise & Fixed Temperature Heat Detector (60°C)

Features

- Electronic linear heat detection
- Remote Indicator output
- Wide voltage range (9.5 ~ 30 VDC)
- Twin fire LEDs allow 360° viewing
- Range of mounting bases
- Approved by LPCB & VdS
- Also available in white.



Description

DCD-AE3 is a Rate of Rise Heat Detector with a 60 °C fixed temperature element using a thermistor and linearising circuit to provide an accurate linear response Heat Detector.

The DCD-AE3 is ideal for use where medium ambient temperatures exist, such as drying rooms or where Smoke Detectors are unsuitable because of the presence of steam or cooking fumes such as in a kitchen.

The DCD-AE3 is supported by a range of bases for different applications and these are supported on the majority of conventional systems. A third terminal provides remote indicator output.

Specification

Ordering codes	DCD-AE3 - Ivory / DCD-AE3(WHT) - White
Operating voltage	9.5 – 30 VDC
Quiescent current	35 µA
Maximum current in alarm (typical)	40 mA
Remote indicator drive	20 mA (max) / 9.5-14 mA (typ)
IP rating	IP63
Maximum humidity	95% RH - Non condensing (at 40°C)
Operating Temperature Range	-10 °C to +50 °C
Storage Temperature Range	-30 °C to +70 °C
Colour / Case material	Ivory or White / Polycarbonate
Compatible bases	YBN-R6, YBN-R/6SK, YBO-R/6R, YBO-R/6RS, YBO-R/6RN, YBO-R/6PA
Base fixing centres (mm)	48 ~ 74
Weight (g) / Dimensions (mm)	76 / ø 100 x H 38
Approvals to (EN54:2000) Class A1 & A1R	LPCB VdS (G204044)



➤ CHQ-WSB2 / SIL



CHQ-WSB2/SIL

Analogue Wall Sounder Beacon

Features

- SIL Level 2 approved
- Ideal for use in oil and gas environments
- Single Loop Address - addressed via the TCH-B200 Hand Held Programmer
- Variable Sound Output 90 ~ 102 dB(A) (± 2 dB(A)) output at 1 metre
- 0.5 or 1Hz flash frequency*
- High Intensity LED technology
- Isolator base available
- 51 User-Selectable Tones (all tones EN54-3 approved)
- *O' Rated Beacon to EN54-23
- Available with Red or White LEDs
- Weatherproof Kit available

Description

Model CHQ-WSB2/SIL is an addressable loop powered Wall Sounder Beacon innovatively designed to provide a range of tones and volumes with a maximum output of up to 102dB(A) (± 2 dB(A)) with low current consumption. The unit features an integral beacon within the horn utilising high intensity LED technology and is designed to fit to the Standard Wall Sounder Base (YBO-R/3(RED)) & YBO-R/3(WHT)). The sounder is IP rated to IP21 for internal use but it can be made weatherproof (IP65) by utilising the CHQ-WPK Weatherproof Kit, which consists of a specialised back box and gasket set.



Specification

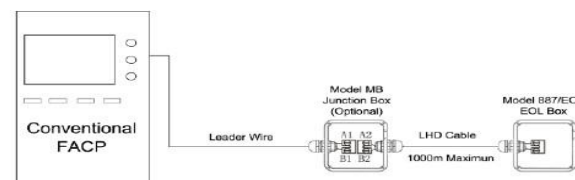
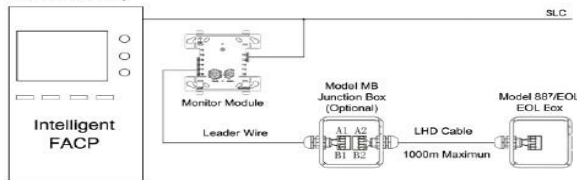
Operating Voltage	17 ~ 41 VDC
Quiescent Current (typ)	150 μ A (with YBO-R/3(RED) & YBO-R/3(WHT))
Sounding Current (typ)	2 mA (90 dB(A) (± 2 dB(A)) @ 1 m) ~ 8 mA (102 dB(A) (± 2 dB(A)) @ 1 m)
Additional Current when Beacon active	+ 7 mA
Sound Output (at 1 metre)	90 ~ 102 dB(A) (± 2 dB(A)) @ 24 VDC or above
Number of Tones	51
Tone Frequency Range	300 Hz ~ 2850 Hz
Operating Temperature Range	-10 °C to +50 °C
Storage Temperature Range	-30 °C to +70 °C
Maximum Humidity	95% RH - Non Condensing (at 40 °C)
Colour/Case Material	Red or White / PC ABS
Lens Material	Translucent PC
Ingress Protection Rating	IP21 (IP65 with WS2-WPK)
Base Fixing Centres (mm)	48 ~ 74
Weight (g)/Dimensions (mm)	164 / H112 x W112 x D67
Approvals	LPCB



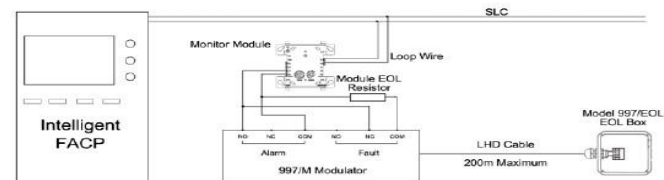
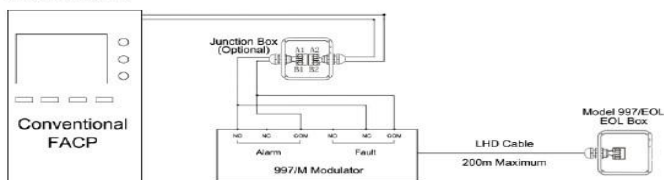
➤ LHD CABLE

Typical Wiring Diagrams & Specifications

800 Series:



900 Series:



Physical/Operating Specifications	JTY-LD-N*-887	JTY-LD-997
Type of Cable	Digital	Analogue
Alarm Temperature	70°C (158°F, not available for Nylon sheath), 85°C (185°F), 105°C (221°F), 138°C (280.4°F)	70°C to 130°C (Set by factory, default setting 85°C) 158°F to 266°F (Set by factory, default setting)
Operating Temperature Range	-25°C to (N* - 20)°C -13°F to (N* - 36)°F	-25°C to (Alarm Temp. - 20)°C -13°F to (Alarm Temp. - 36)°F
Reset Temperature	NA	120°C (248°F)
Max Zone Length	1000m	200m
Min Bend Radius	1.5 cm	1.5 cm
Standard Roll Length	200m or 600m	200m or 600m
Conductor Material	Steel	Steel
Outer Sheath Option	PVC/Nylon/Steel	PVC/Nylon/Steel
Weight	1.8kg/100m (1.2lb/100ft)(PVC sheath)	1.4kg/100m (0.94lb/100ft)(PVC sheath)
Electrical Specifications	JTY-LD-N*-887	JTY-LD-997
Operating Voltage / Contact Ratings	NA	20 – 26 VDC
Standby Current	NA	25mA
Alarm and Fault Current	NA	45mA
Resistance	0.32ohms/m (0.1ohms/ft)	NA

* N denotes for 70/85/105/138°C





➤ AEROSOL FIRE SUPPRESSION SYSTEM

Stat-X® Aerosol Fire Suppression

Data Sheet

Electrically Operated Stat-X® Fire Suppression Generators for Ordinary Locations



Model	P/N	Aerosol Mass (g)	Weight (kg / lb)	Total Length (mm / in)	Diameter (mm / in)	Discharge Time (sec)
15E	15090	15	0.2 / 0.44	127 / 5.0	34 / 1.33 (width)	4.0
30E *	15100	30	0.4 / 0.8	94 / 3.7	51 / 2.0	7.0
60E *	15110	60	0.5 / 1.1	130 / 5.1	51 / 2.0	10.0
60ME *	15111	60	0.5 / 1.2	154 / 6.1	51 / 2.0	10.0
100E *	15120	100	0.9 / 2.0	137 / 5.4	76 / 3.0	12.0
250E *	15130	250	2.5 / 5.6	152 / 6.0	127 / 5.0	12.0
500E *	15140	500	3.4 / 7.6	203 / 8.0	127 / 5.0	23.0
1000E *	15150	1000	7.1 / 15.7	191 / 7.5	203 / 8.0	16.0
1500E *	15160	1500	8.6 / 19.0	233 / 9.2	203 / 8.0	23.0
2500E *	15170	2500	11.3 / 24.9	292 / 11.5	203 / 8.0	36.0

Notes:

- Weights listed are median values with range of +/- 10% for 2 1/8" diameter models and +/- 5% for 5 7/8" diameter models.
- Lengths listed includes the entire length of the generator including the 3/4" threaded coupling.
- Discharge times listed are approximate.

*UL Listed

Electrical Requirements:

- Initiation current 0.5 amp when wired in parallel and 1.0 amp when wired in series. The releasing circuit pulse for the Potter PFC 4410RC panel is 50 milliseconds.
- Supervisory current on the release circuit cannot exceed 0.005 amp.

Operation/Storage Parameters:

Temperature -40° C to +54° C (-40° F to 130° F)
Relative Humidity up to 98% at +35° C (+95° F)

Shipping Limitations:

Ground: Placards required for any shipment > 1001 lb as UN0432 1.4S
Max Net Quantity / package – Cargo Air 100 kg (220 lb)
Max Net Quantity / package – Passenger Air 25 kg (55 lb)



TECHNICAL SPECIFICATIONS OF NS1060.03 POINT BASED SYSTEM

➤ ELECTRICAL SPECIFICATIONS

- Input Supply : 110V DC $\pm$ 30%
- Nominal Supply: 24V DC $\pm$ 5%
- Power Consumption at normal state: 220mA $\pm$ 20% at 24V DC
- Power Consumption at Alarm state: 250mA $\pm$ 20% at 24V DC
- Power Consumption at Alarm: 310mA $\pm$ 20%, Trigger state at 24V DC
- Power Consumption of both: 310mA $\pm$ 20%, Alarm Trigger state at 24V DC

➤ MECHANICAL SPECIFICATIONS

- Dimension (L*B*H) (mm): 380*300*155mm
- Control cabinet can be designed to Customer size and specification.

➤ PHYSICAL SPECIFICATIONS

- Ambient temperature: -10°C to 50°C
- Maximum temperature under sun: 70°C
- Relative humidity: Upto 100% during monsoon season

➤ CONNECTIONS

- Electrical Connection: Box Receptacle Circular Connectors
- Class of Protection: IP 54





STANDARDS COMPLIANCE

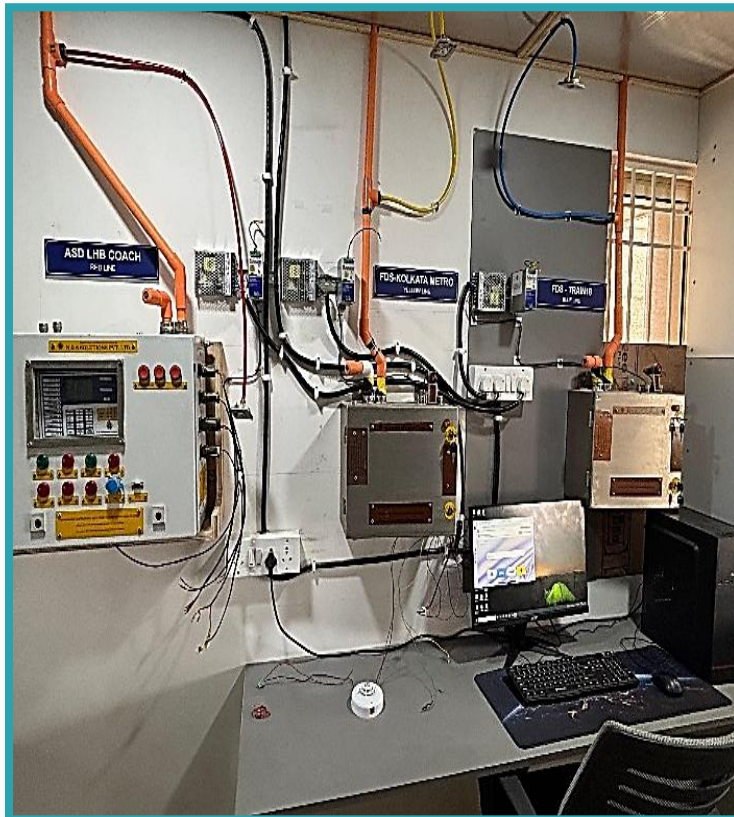
STANDARDS	DESCRIPTION
IEC 60571	Electronic Equipment used on rail vehicles
EN 50155	Railway Application-Electronic Equipment used on rolling stock
EN50126	Railway applications -The specification and demonstration of Reliability, Maintainability and Safety (RAMS)
EN50128	Railway applications -Communications, signalling and processing systems
EN50129	Railway applications - Communication, signalling and processing systems - Safety related electronic systems for signaling
EN 54-7	Fire detection and Fire alarm systems-Part 7: Smoke Detectors-Point detectors using scattered light, transmitted light or ionization
EN 54-20	Fire detection and Fire alarm systems-Part 20: Aspirating smoke detectors.
EN 54-4	Fire detection and Fire alarm systems-Part 4: Power supply equipment
EN 54-5	Fire detection and Fire alarm systems-Part 5: Heat Detectors-Point detectors
UL 268	Smoke detectors for fire Alarm Signaling System
ARGE Directive	Fire Detection in Rolling stock
EN 54-2	Fire detection and fire alarm systems-Part 2: Control and indicating equipment
EN 45545	Railway Applications. Fire protection of Railway vehicles
EN 50200	Fire Resistant Cables
EN 50264	Railway applications Railway rolling stock power and control cables having special fire performance



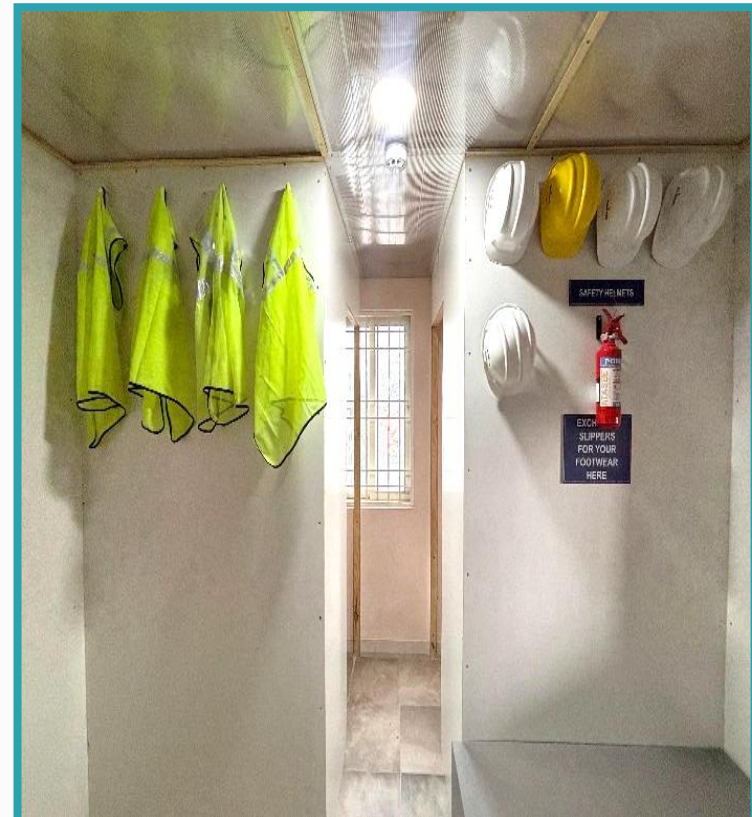


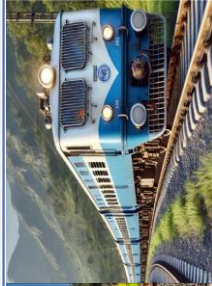
NS DEMO SIMULATION COACH FOR LIVE SMOKE AND PERFORMANCE TESTING

DEMO COACH TESTING LAB



DEMO COACH INSIDE VIEW





DEMO COACH ENTRY

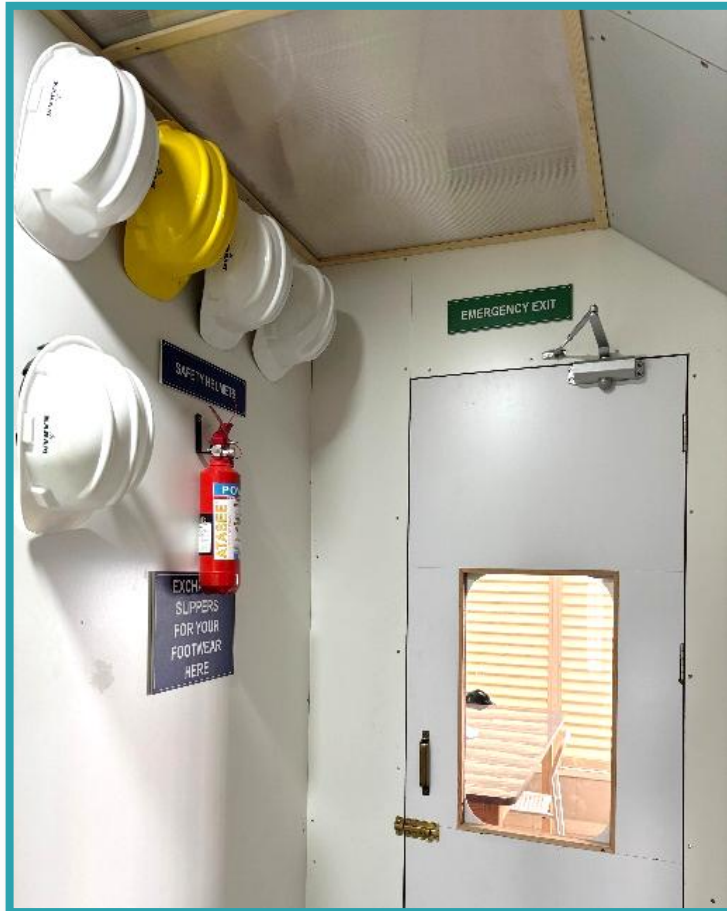


DEMO COACH INSIDE VIEW





DEMO COACH EMERGENCY EXIT



DEMO COACH OUTSIDE VIEW





COMPANY K Y C



CERTIFICATE

This is to certify that the
QUALITY MANAGEMENT SYSTEMS

of
N & S SOLUTIONS PVT. LTD.

Office Add : No. 37-38, Reliable Residency, 1st Main, 8th Cross, HSR Layout,
Harlur, Bangalore- 560102, Karnataka, India
Factory Add: Ground Floor, No.31,32,33,34 & 35, Shri. Angala Parameshwari Residency,
12th Cross Muneshwara Nagar, Kudlu Main Road Haralukunte- 560068,
Bangalore, India

has been assessed and found to be in conformance to the requirements of

ISO 9001:2015

This certificate is valid for the following activity:

Design, Manufacturing and Supply of Electronic and Embedded based Control Systems &
Sensors for Rolling Stock & Industrial Application
Manufacture of Automatic Smoke fire Detection System,
Aspirator & Point, Control Panel

Certificate No.: IQ-24101001

Date of initial Registration 10-10-2024
Date of this Certificate 10-10-2024
Certificate Expiry 09-10-2025*
Recertification Due 09-10-2027

Auth Sign

*Registration is subject to the system being continually maintained to the above standard under regular surveillance.
To check the certification validity please visit- <https://www.iscertsearch.org/> or www.ispcert.com



Intercontinental Systemcert Pvt. Ltd.
(Formerly known as Indraprastha Systemcert Pvt. Ltd.)
Accredited by ISIRI, a Member of International Accreditation Forum
For updated information of Certification, visit www.ispcert.com, or E-Mail info@ispcert.com
(D1, Jyoti Tower-3, A-1, Jyoti Park, New Delhi 110008, India. Ph: 011 8800 417 831)



CERTIFICATE OF CONFORMANCE



Independent Safety Assessment
Certificate no : CH9583

The Product ISA Certificate is awarded to

N&S SOLUTIONS PVT LTD

Ground Floor/37/38,
1st main, 8th cross, Haralur,
HSR Layout,
Bangaluru Urban, Karnataka-560102

DNV Business Assurance India Pvt Ltd, conducted the Independent Safety Assessment of:

PRODUCT: FIRE DETECTION SYSTEM

MODEL : NS-Hochiki NS1060.01 Hybrid (Aspiration + Point) Type
Smoke/Fire Detection with Alarm System

The comprehensive details of the Audits (Design Office & Onsite) and assessments conducted are documented in the Safety Assessment Report Ref. DNV-10574741-ISA-007 Rev00, which forms an integral part of this Certificate of conformity.

As a result of the assessment, it is concluded that the "Hybrid (Aspiration + Point) Type Smoke/Fire Detection with Alarm System" has been developed in compliance with the applicable standards CENELEC EN 50126-2017, EN 50128-2011, and EN 50129-2018, and has been achieved in accordance with the requirements for SIL2, making it suitable for deployment in operational railway applications.

Place & Date:
Chennai, 27 October 2025

Iyer, Haritharan
Sundareswara
Authorized Signatory
DNV Business Assurance India Private Limited
Supply Chain and Product Assurance
India & Middle East

Validity: Proprietary, all any design change/modification(s) are carried out and/or implemented. In the event, any modifications of existing design configuration and/or related documentation are carried out and/or implemented, certificate stands invalid and requires re-assessment. There are no conditions or caveats on this certificate other than those which are identified in the assessment report. This certificate remains valid as long as the conditions of issuance are maintained.

DNV BUSINESS ASSURANCE INDIA PRIVATE LIMITED.
INC-20, No. 10-12/1, Road, Near Kumbhariya, Near Chennai Airport, Tamil Nadu, India
This certificate is subject to the terms and conditions of the Product Certificate.
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GST NO: 29AABCN9709K1ZX

TAN NO: BLRNO4400E

PAN NO.: AABCN9709K

REGISTERED ADDRESS:

N&S SOLUTIONS PVT LTD
NO:37-38 RELIABLE RESIDENCY, 1st MAIN
8th CROSS, HARLUR, HSR LAYOUT
BANGALORE – 560104

FACTORY ADDRESS: N&S SOLUTIONS PVT LTD

BUILDING NO: 31,32,33,34,35
SHREE ANGALA PARAMESHWARI RESIDENCY
MUNESHWARA LAYOUT, HARALUKUNTE
KUDLU MAIN ROAD, BANGALORE-560068

MARKETING & R&D OFFICE: N&S

BUILDING NO.4, 4th FLOOR,
12th CROSS, MUNESHWARA LAYOUT
HARALUKUNTE, KUDLU MAIN ROAD
BANGALORE-560068

PLEASE CONTACT FOR SALES: sales@nssolutions.in

PLEASE CONTACT FOR SERVICES: nsservicetrain18@nssolutions.in