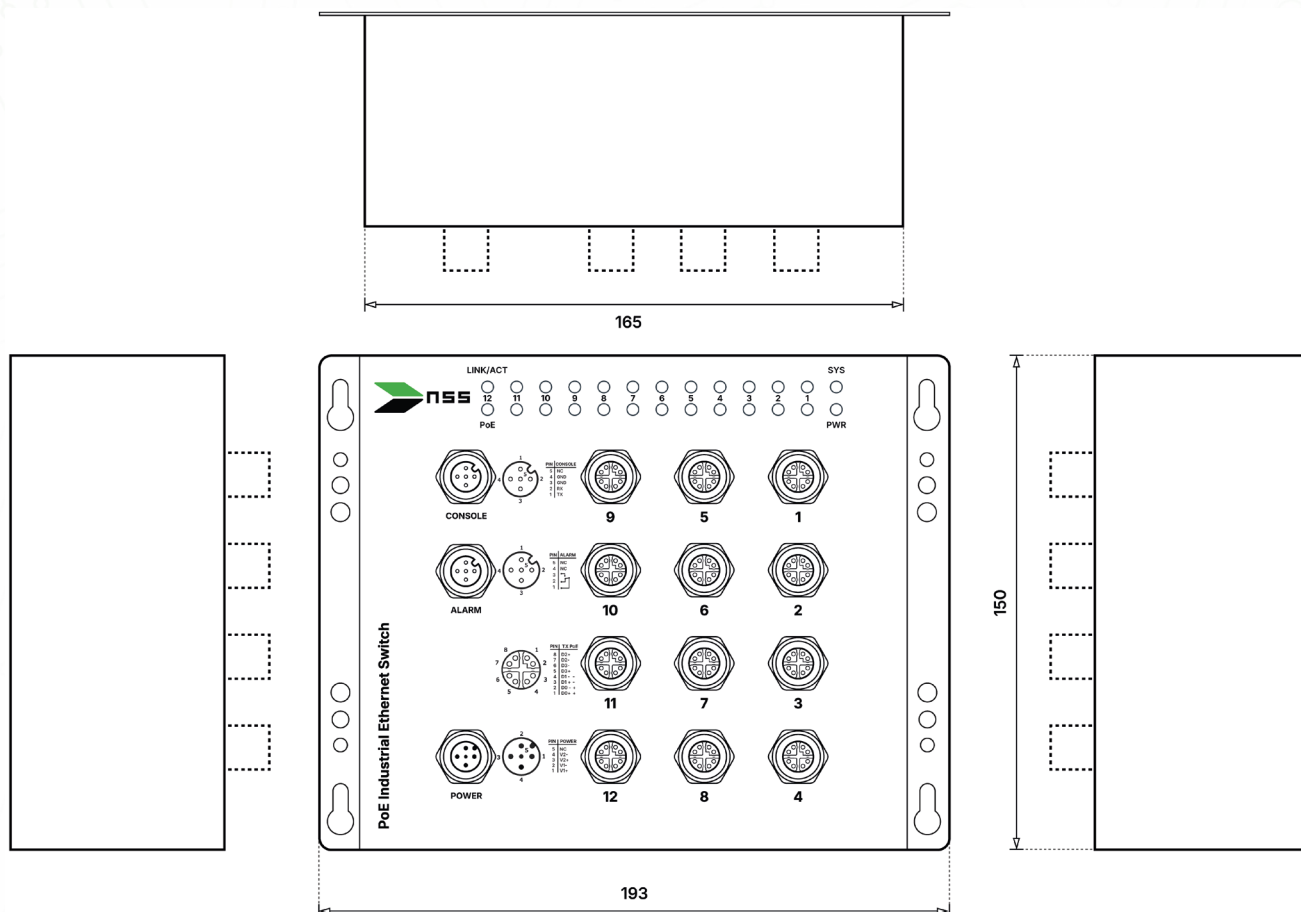


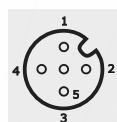


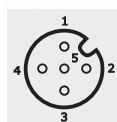
## Quadro de Características Table of Characteristics

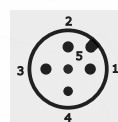
|                       |                             |                                                                                 |
|-----------------------|-----------------------------|---------------------------------------------------------------------------------|
| Identification        | Type                        | Managed Gigabit Ethernet Switch with PoE                                        |
|                       | Application                 | Railway, vehicle and Passenger Information Systems                              |
| Structure             | Housing                     | High-strength metal                                                             |
|                       | IP Rating                   | IP40                                                                            |
|                       | Dimensions                  | 193 × 150 × 80 mm                                                               |
|                       | Mounting                    | Wall mounting                                                                   |
|                       | Weight                      | 1.6 kg                                                                          |
| Power and Consumption | Power Input Voltage         | 24 VDC (9–36 VDC) redundant dual inputs                                         |
|                       | Protections                 | Overcurrent and reverse polarity protection                                     |
|                       | No-load power consumption   | 0.2 A @ 24 VDC (5 W)                                                            |
|                       | Full-load power consumption | 4 A @ 24 VDC (100W) (support up to 24 ports at 30W)                             |
|                       | PoE Port Output             | 350 mA @ 48 VDC - 15.4W (IEEE 802.3af)<br>600 mA @ 48 VDC - 30 W (IEEE 802.3at) |
|                       | Power Budget                | 100W for total PDs' consumption                                                 |
| Interfaces            | Ethernet Port               | 12 × X-code 8-pin female M12 connectors                                         |
|                       |                             | 10/100/1000 BaseT(X) auto negotiation speed                                     |
|                       |                             | Full/Half duplex mode                                                           |
|                       |                             | MDI/MDI-X connection                                                            |
|                       | Console Port                | RS-232 (M12 A-code 5-pin female to DB9)                                         |
|                       | Power Port                  | M12 A-code 4-pin male                                                           |
|                       | Alarm Port                  | M12 A-code 5-pin female                                                         |
|                       | LED Indicators              | Power (green), System (amber),<br>Ethernet Link/Act (green/amber), PoE (amber)  |

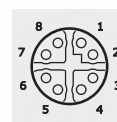
|                              |                                   |                                                                                                                                                                                         |
|------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network                      | <b>Management</b>                 | Web, CLI, Telnet, SNMPv1/v2c/v3                                                                                                                                                         |
|                              | <b>Network redundancy</b>         | RSTP/STP/MTSP Protocols                                                                                                                                                                 |
|                              | <b>Network Functions</b>          | VLAN (IEEE 802.1Q), QoS, IGMP Snooping, Agregação de Portas (LACP), IEEE 802.1X                                                                                                         |
|                              | <b>Processing type</b>            | Store & Forward                                                                                                                                                                         |
|                              | <b>Backplane Capacity</b>         | 56 G                                                                                                                                                                                    |
|                              | <b>Forwarding Rate</b>            | 17.856 Mpps                                                                                                                                                                             |
|                              | <b>MAC Table Size</b>             | 8 K entries                                                                                                                                                                             |
|                              | <b>IGMP Groups</b>                | 256                                                                                                                                                                                     |
|                              | <b>Priority Queues</b>            | 4                                                                                                                                                                                       |
|                              | <b>Max VLANs</b>                  | 64 (VID-1-4094)                                                                                                                                                                         |
|                              | <b>Packet buffer</b>              | 4.1 Mbit                                                                                                                                                                                |
|                              | <b>Jumbo Frame Size</b>           | 10 KB                                                                                                                                                                                   |
|                              | <b>Flow Control</b>               | IEEE 802.3x, Back Pressure                                                                                                                                                              |
| Environment                  | <b>Operating Temperature</b>      | -40 °C a +75 °C                                                                                                                                                                         |
|                              | <b>Storage Temperature</b>        | -40 °C a +85 °C                                                                                                                                                                         |
|                              | <b>Relative Humidity</b>          | 5 – 95% (non-condensing)                                                                                                                                                                |
|                              | <b>Operating Conditions</b>       | Industrial-grade design for vibration, shock and EMI environments                                                                                                                       |
| Standards and Certifications | <b>EMI</b>                        | FCC Part 15B Class A<br>CISPR (EN 55022)<br>EN 55024 Class A                                                                                                                            |
|                              | <b>EMS</b>                        | EN 61000-4-2 (ESD), Level 4<br>EN 61000-4-3 (RS), Level 3<br>EN 61000-4-4 (EFT), Level 4<br>EN 61000-4-5 (Surge), Level 4<br>EN 61000-4-6 (CS), Level 3<br>EN 61000-4-8 (PFMF), Level 5 |
|                              | <b>Shock</b>                      | IEC 60068-2-27                                                                                                                                                                          |
|                              | <b>Freefall</b>                   | IEC 60068-2-32                                                                                                                                                                          |
|                              | <b>Vibration</b>                  | IEC 60068-2-6                                                                                                                                                                           |
|                              | <b>Fire</b>                       | EN45545                                                                                                                                                                                 |
|                              | <b>Railway</b>                    | EN50155, EN50121-3-2, EN50121-4                                                                                                                                                         |
|                              |                                   |                                                                                                                                                                                         |
| Durability                   | <b>Mean time between failures</b> | 512 352 h                                                                                                                                                                               |



|                                                                                     | PIN | CONSOLE |
|-------------------------------------------------------------------------------------|-----|---------|
|  | 5   | NC      |
|                                                                                     | 4   | GND     |
|                                                                                     | 3   | GND     |
|                                                                                     | 2   | RX      |
|                                                                                     | 1   | TX      |

|                                                                                     | PIN | ALARM                                                                               |
|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|
|  | 5   | NC                                                                                  |
|                                                                                     | 4   | NC                                                                                  |
|                                                                                     | 3   |  |
|                                                                                     | 2   |  |
|                                                                                     | 1   |  |

|                                                                                     | PIN | POWER |
|-------------------------------------------------------------------------------------|-----|-------|
|  | 5   | NC    |
|                                                                                     | 4   | V2-   |
|                                                                                     | 3   | V2+   |
|                                                                                     | 2   | V1-   |
|                                                                                     | 1   | V1+   |

|                                                                                       | PIN | TX PoE |
|---------------------------------------------------------------------------------------|-----|--------|
|  | 8   | D2+    |
|                                                                                       | 7   | D2-    |
|                                                                                       | 6   | D3-    |
|                                                                                       | 5   | D3+    |
|                                                                                       | 4   | D1- -  |
|                                                                                       | 3   | D1+ -  |
|                                                                                       | 2   | D0- +  |
|                                                                                       | 1   | D0+ +  |