

MANUFACTURER DOCUMENT PACKAGE

# Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS SCALANCE

## 6GK5307-3BM00-2AA3

MANAGED INDUSTRIAL ETHERNET SWITCH

Used with the applicable Siemens SCALANCE configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens official manufacturer documentation

Product type designation

**SCALANCE X307-3LD**  
SCALANCE X307-3LD, MANAGED PLUS IE SWITCH, 3 X 1000MBIT/S SM SC 7 X 10/100MBIT/S RJ45 PORTS, LED DIAGNOSTICS, FAULT SIGNAL. CONTACT WITH SELECT/SET BUTTON, PROFINET-IO DEVICE, NETWORK MANAGEMENT, INTEGRATED REDUNDANCY MANAGER, OFFICE FEATURES (RSTP, VLAN, IGMP,...) C-PLUG IN SCOPE OF SUPPLY



| Transmission rate                                                                                                                                            |                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Transfer rate                                                                                                                                                | 10 Mbit/s, 100 Mbit/s, 1000 Mbit/s |
| Interfaces                                                                                                                                                   |                                    |
| Number of electrical/optical connections <ul style="list-style-type: none"><li>for network components or terminal equipment / maximum</li></ul>              | 10                                 |
| Number of electrical connections <ul style="list-style-type: none"><li>for network components or terminal equipment</li></ul>                                | 7                                  |
| Type of electrical connection <ul style="list-style-type: none"><li>for network components or terminal equipment</li></ul>                                   | RJ45 port                          |
| Number of optical interfaces <ul style="list-style-type: none"><li>for fiber optic cable / at 1000 Mbit/s</li></ul>                                          | 3                                  |
| Design of the optical interface <ul style="list-style-type: none"><li>for fiber optic cable / at 1000 Mbit/s</li></ul>                                       | SC port (singlemode up to 10 km)   |
| Connectable optical power relative to 1 mW <ul style="list-style-type: none"><li>of the transmitter output</li><li>of the receiver input / maximum</li></ul> | -9.5 ... -3<br>-3 dB               |

|                                                                        |                       |
|------------------------------------------------------------------------|-----------------------|
| Optical sensitivity relating to 1 mW / of the receiver input / minimum | -21 dB                |
| Damping ratio / of the FOC transmission link / minimum necessary       | 0 dB                  |
| Range / at the optical interface / depending on the optical fiber used | 0 ... 10 km           |
| <b>Interfaces / for communication / integrated</b>                     |                       |
| Number of 100 Mbit/s SC ports                                          |                       |
| • for multimode                                                        | 0                     |
| Number of 1000 Mbit/s LC ports                                         |                       |
| • for multimode                                                        | 0                     |
| • for single mode (LD)                                                 | 0                     |
| <b>Interfaces / others</b>                                             |                       |
| Number of electrical connections                                       |                       |
| • for signaling contact                                                | 1                     |
| • for power supply                                                     | 1                     |
| • for redundant voltage supply                                         | 2                     |
| Type of electrical connection                                          |                       |
| • for signaling contact                                                | 2-pole terminal block |
| • for power supply                                                     | 4-pole terminal block |
| design of the removable storage                                        |                       |
| • C-PLUG                                                               | Yes                   |
| <b>Signal-Inputs/outputs</b>                                           |                       |
| Operating voltage / of the signaling contacts                          |                       |
| • at DC / Rated value                                                  | 24 V                  |
| Operating current / of the signaling contacts                          |                       |
| • at DC / maximum                                                      | 0.1 A                 |
| <b>Supply voltage, current consumption, power loss</b>                 |                       |
| Type of voltage supply / redundant power supply unit                   | No                    |
| Type of voltage / of the supply voltage                                | DC                    |
| Supply voltage                                                         |                       |
| • external                                                             | 24 V                  |
| • external                                                             | 18 ... 32 V           |
| Product component / fusing at power supply input                       | Yes                   |
| Fuse protection type / at input for supply voltage                     | F 3 A / 32 V          |
| Consumed current / maximum                                             | 0.4 A                 |
| Active power loss                                                      |                       |
| • at DC / at 24 V                                                      | 9.6 W                 |
| <b>Permitted ambient conditions</b>                                    |                       |
| Ambient temperature                                                    |                       |
| • during operation                                                     | -40 ... +60 °C        |

|                                                                                                                  |                |
|------------------------------------------------------------------------------------------------------------------|----------------|
| <ul style="list-style-type: none"> <li>• during storage</li> <li>• during transport</li> </ul>                   | -40 ... +70 °C |
| Relative humidity                                                                                                |                |
| <ul style="list-style-type: none"> <li>• at 25 °C / without condensation / during operation / maximum</li> </ul> | 95 %           |
| Protection class IP                                                                                              | IP30           |

#### Design, dimensions and weight

|                                                                                                                                                                                                       |                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Design                                                                                                                                                                                                | compact                                                                                     |
| Width                                                                                                                                                                                                 | 120 mm                                                                                      |
| Height                                                                                                                                                                                                | 125 mm                                                                                      |
| Depth                                                                                                                                                                                                 | 123 mm                                                                                      |
| Net weight                                                                                                                                                                                            | 1.4 kg                                                                                      |
| Mounting type                                                                                                                                                                                         | When used in shipbuilding, installation on a 35 mm standard mounting rail is not permitted. |
| <ul style="list-style-type: none"> <li>• 19-inch installation</li> <li>• 35 mm DIN rail mounting</li> <li>• wall mounting</li> <li>• S7-300 rail mounting</li> <li>• S7-1500 rail mounting</li> </ul> | No<br>Yes<br>Yes<br>Yes<br>No                                                               |

#### Product properties, functions, components / general

|                                                                                |                                                 |
|--------------------------------------------------------------------------------|-------------------------------------------------|
| Cascading in the case of a redundant ring / at reconfiguration time of <~0.3~s | 100                                             |
| Cascading in cases of star topology                                            | any (depending only on signal propagation time) |

#### Product functions / management, configuration

|                                                                                                                                                                                                                                                                                                                                   |                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Product function                                                                                                                                                                                                                                                                                                                  |                                                                           |
| <ul style="list-style-type: none"> <li>• CLI</li> <li>• web-based management</li> <li>• MIB support</li> <li>• TRAPs via email</li> <li>• Configuration with STEP 7</li> <li>• RMON</li> <li>• Port mirroring</li> <li>• multiport mirroring</li> <li>• CoS</li> <li>• PROFINET IO diagnosis</li> <li>• switch-managed</li> </ul> | Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes |
| Protocol / is supported                                                                                                                                                                                                                                                                                                           |                                                                           |
| <ul style="list-style-type: none"> <li>• Telnet</li> <li>• HTTP</li> <li>• HTTPS</li> <li>• TFTP</li> </ul>                                                                                                                                                                                                                       | Yes<br>Yes<br>Yes<br>Yes                                                  |

|                                                        |     |
|--------------------------------------------------------|-----|
| • FTP                                                  | Yes |
| • BOOTP                                                | Yes |
| • GMRP                                                 | Yes |
| • DCP                                                  | Yes |
| • LLDP                                                 | Yes |
| • IGMP (snooping/querier)                              | Yes |
| Identification & maintenance function                  |     |
| • I&M0 - device-specific information                   | Yes |
| • I&M1 – higher-level designation/location designation | Yes |
| Protocol / is supported                                |     |
| • SNMP v1                                              | Yes |
| • SNMP v2                                              | Yes |
| • SNMP v3                                              | Yes |
| Product functions / Diagnosis                          |     |
| Product function                                       |     |
| • Port diagnostics                                     | Yes |
| • Statistics Packet Size                               | Yes |
| • Statistics packet type                               | Yes |
| • Error statistics                                     | Yes |
| • SysLog                                               | Yes |
| Product functions / VLAN                               |     |
| Product function                                       |     |
| • VLAN - port based                                    | Yes |
| • VLAN - protocol-based                                | No  |
| • VLAN - IP-based                                      | No  |
| • VLAN dynamic                                         | Yes |
| Number of VLANs / maximum                              | 255 |
| Number of VLANs - dynamic / maximum                    | 255 |
| Protocol / is supported / GVRP                         | Yes |
| Product functions / DHCP                               |     |
| Product function                                       |     |
| • DHCP client                                          | Yes |
| • DHCP Option 82                                       | Yes |
| • DHCP Option 66                                       | Yes |
| • DHCP Option 67                                       | Yes |
| Product functions / Redundancy                         |     |
| Product function                                       |     |
| • Ring redundancy                                      | Yes |
| • High Speed Redundancy Protocol (HRP)                 | Yes |

|                                                                                                                  |                                                                                   |
|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• high speed redundancy protocol (HRP) with redundancy manager</li> </ul> | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• high speed redundancy protocol (HRP) with standby redundancy</li> </ul> | Yes                                                                               |
| Protocol / is supported / Media Redundancy Protocol (MRP)                                                        | Yes                                                                               |
| Product function                                                                                                 |                                                                                   |
| <ul style="list-style-type: none"> <li>• media redundancy protocol (MRP) with redundancy manager</li> </ul>      | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• redundancy procedure STP</li> </ul>                                     | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• redundancy procedure RSTP</li> </ul>                                    | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• redundancy procedure MSTP</li> </ul>                                    | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• Passive listening</li> </ul>                                            | Yes                                                                               |
| Protocol / is supported                                                                                          |                                                                                   |
| <ul style="list-style-type: none"> <li>• STP/RSTP</li> </ul>                                                     | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• STP</li> </ul>                                                          | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• RSTP</li> </ul>                                                         | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• MSTP</li> </ul>                                                         | No                                                                                |
| <ul style="list-style-type: none"> <li>• RSTP big network support</li> </ul>                                     | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• LACP</li> </ul>                                                         | Yes                                                                               |
| Product functions / Security                                                                                     |                                                                                   |
| Product function                                                                                                 |                                                                                   |
| <ul style="list-style-type: none"> <li>• ACL - MAC-based</li> </ul>                                              | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• ACL - port/MAC-based</li> </ul>                                         | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• IEEE 802.1x (radius)</li> </ul>                                         | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• Broadcast/Multicast/Unicast Limiter</li> </ul>                          | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• broadcast blocking</li> </ul>                                           | Yes                                                                               |
| Protocol / is supported                                                                                          |                                                                                   |
| <ul style="list-style-type: none"> <li>• SSH</li> </ul>                                                          | Yes                                                                               |
| Product functions / Time                                                                                         |                                                                                   |
| Product function                                                                                                 |                                                                                   |
| <ul style="list-style-type: none"> <li>• SICLOCK support</li> </ul>                                              | Yes                                                                               |
| Protocol / is supported                                                                                          |                                                                                   |
| <ul style="list-style-type: none"> <li>• NTP</li> </ul>                                                          | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• SNTP</li> </ul>                                                         | Yes                                                                               |
| <ul style="list-style-type: none"> <li>• IEEE 1588 profile default</li> </ul>                                    | No                                                                                |
| Standards, specifications, approvals                                                                             |                                                                                   |
| Standard                                                                                                         |                                                                                   |
| <ul style="list-style-type: none"> <li>• for FM</li> </ul>                                                       | FM3611: Class 1, Divison 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4 |
| <ul style="list-style-type: none"> <li>• for hazardous zone</li> </ul>                                           | EN 60079-0 : 2006, EN 60079-15: 2005, II 3 G Ex nA II T4 KEMA 07 ATEX 0145X       |

|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• for safety / from CSA and UL</li> <li>• for hazardous zone / from CSA and UL</li> </ul>                                                                                                                                                                                                                                  | UL 60950-1, CSA C22.2 No. 60950-1<br>UL 1604 and UL 2279-15 (Hazardous Location), CSA C22.2 No. 213-M1987, Class 1 / Division 2 / Group A, B, C, D / T4, Class 1 / Zone 2 / Group IIC / T4<br>EN 61000-6-4:2007 (Class A)<br>EN 61000-6-2:2005 |
| <ul style="list-style-type: none"> <li>• for emitted interference</li> <li>• for interference immunity</li> </ul>                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                |
| Certificate of suitability <ul style="list-style-type: none"> <li>• CE marking</li> <li>• C-Tick</li> <li>• KC approval</li> <li>• Railway application in accordance with EN 50155</li> </ul>                                                                                                                                                                     | EN 61000-6-2:2005, EN 61000-6-4:2007<br>Yes<br>Yes<br>Yes<br>No                                                                                                                                                                                |
| Marine classification association <ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> <li>• Bureau Veritas (BV)</li> <li>• Det Norske Veritas (DNV)</li> <li>• Germanische Lloyd (GL)</li> <li>• Lloyds Register of Shipping (LRS)</li> <li>• Nippon Kaiji Kyokai (NK)</li> <li>• Polski Rejestr Statkow (PRS)</li> </ul> | Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>No                                                                                                                                                                                                   |
| MTBF / at 40 °C                                                                                                                                                                                                                                                                                                                                                   | 20 y                                                                                                                                                                                                                                           |

#### Further Information / Internet Links

##### Internet-Link

|                                                   |                                                                                                           |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| • to website: Selector SIMATIC NET SELECTION TOOL | <a href="http://www.siemens.com/snst">http://www.siemens.com/snst</a>                                     |
| • to website: Industrial communication            | <a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a>                       |
| • to website: Industry Mall                       | <a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a>                         |
| • to website: Information and Download Center     | <a href="http://www.siemens.com/automation/net/catalog">http://www.siemens.com/automation/net/catalog</a> |
| • to website: Image database                      | <a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a>                   |
| • to website: CAx Download Manager                | <a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a>                                       |
| • to website: Industry Online Support             | <a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>                   |

#### Security information

## Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, solutions, machines, equipment and/or networks. They are important components in a holistic industrial security concept. With this in mind, Siemens' products and solutions undergo continuous development. Siemens recommends strongly that you regularly check for product updates. For the secure operation of Siemens products and solutions, it is necessary to take suitable preventive action (e.g. cell protection concept) and integrate each component into a holistic, state-of-the-art industrial security concept. Third-party products that may be in use should also be considered. For more information about industrial security, visit <http://www.siemens.com/industrialsecurity>. To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit <http://support.automation.siemens.com>. (V3.4)

**last modified:**

22.07.2015