

### product type designation

### product description

### MM991-2LD (BFOC)

### XR-300 media module

SCALANCE X accessory; Media module MM991-2LD; 2x 100 Mbit/s BFOC ports, optical; single-mode optical up to max. 26 km.



### interfaces

|                                                                                                                                                                                                                        |                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| number of electrical/optical connections / for network components or terminal equipment / maximum                                                                                                                      | 2                        |
| number of optical interfaces / for network components or terminal equipment / maximum                                                                                                                                  | 2                        |
| number of 100 Mbit/s ST(BFOC) ports / for multimode / integrated                                                                                                                                                       | 2                        |
| design of the optical interface / for network components or terminal equipment                                                                                                                                         | ST/BFOC                  |
| wavelength / of the optical interface                                                                                                                                                                                  | 1310 nm; Single-mode     |
| connectable optical power relative to 1 mW <ul style="list-style-type: none"> <li>of the transmitter output / minimum</li> <li>of the transmitter output / maximum</li> <li>of the receiver input / maximum</li> </ul> | -15 dB<br>-8 dB<br>-3 dB |
| optical sensitivity relating to 1 mW / of the receiver input / minimum                                                                                                                                                 | -34 dB                   |
| attenuation factor / of the FOC transmission link / minimum necessary                                                                                                                                                  | 0 dB                     |
| range / at the optical interface / depending on the optical fiber used                                                                                                                                                 | 0 ... 26 km              |

### ambient conditions

|                                                                                                                                          |                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| ambient temperature <ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> | -40 ... +70 °C<br>-40 ... +85 °C<br>-40 ... +85 °C |
| relative humidity / at 25 °C / without condensation / during operation / maximum                                                         | 95 %                                               |
| protection class IP                                                                                                                      | IP20                                               |

### design, dimensions and weights

|                                                                                                      |                |
|------------------------------------------------------------------------------------------------------|----------------|
| design                                                                                               | Media module   |
| width                                                                                                | 60 mm          |
| height                                                                                               | 22 mm          |
| depth                                                                                                | 100 mm         |
| net weight                                                                                           | 0.08 kg        |
| fastening method <ul style="list-style-type: none"> <li>installation in media module slot</li> </ul> | latched<br>Yes |

### standards, specifications, approvals

|                                                                                               |                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| standard <ul style="list-style-type: none"> <li>for FM</li> <li>for hazardous zone</li> </ul> | FM3611: Class 1, Division 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4<br>EN 60079-0: 2006, EN60079-15: 2005, II 3 G Ex nA II T4, KEMA 07 ATEX |
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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• for safety / from CSA and UL</li> <li>• for hazardous zone / from CSA and UL</li> <li>• for emitted interference</li> <li>• for interference immunity</li> </ul>                                                                                                                                                                                    | 0145 X<br>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                                                                                                                                                                                                                                                                                                                                                                                          |
| certificate of suitability <ul style="list-style-type: none"> <li>• CE marking</li> <li>• C-Tick</li> <li>• KC approval</li> <li>• CCC / for hazardous zone according to GB standard</li> <li>• CCC / for hazardous zone according to GB standard / as marking</li> </ul>                                                                                                                    | EN 61000-6-2:2005, EN 61000-6-4:2007<br>Yes<br>Yes<br>Yes<br>Yes<br>Ex nA IIC T4 Gc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Marine classification association <ul style="list-style-type: none"> <li>• French marine classification society (BV)</li> </ul>                                                                                                                                                                                                                                                              | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MTBF                                                                                                                                                                                                                                                                                                                                                                                         | 115 a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>further information / internet links</b>                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| internet link <ul style="list-style-type: none"> <li>• to web page: selection aid TIA Selection Tool</li> <li>• to website: Industrial communication</li> <li>• to website: Industry Mall</li> <li>• to website: Information and Download Center</li> <li>• to website: Image database</li> <li>• to website: CAX-Download-Manager</li> <li>• to website: Industry Online Support</li> </ul> | <a href="http://www.siemens.com/tia-selection-tool">http://www.siemens.com/tia-selection-tool</a><br><a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a><br><a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a><br><a href="http://www.siemens.com/industry/infocenter">http://www.siemens.com/industry/infocenter</a><br><a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a><br><a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a><br><a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a> |
| <b>last modified:</b>                                                                                                                                                                                                                                                                                                                                                                        | 5/28/2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |