ICS 33.180.20 SLOVENSKÁ TECHNICKÁ NORMA August 2021

STN	**Optovláknové aktívne súčiastky a prvky Norma na prevádzkové charakteristiky Časť 3: Vysielače s laserovými diódami a integrovanými modulátormi pre optické prenosové systémy 40 Gbit/s Oprava AC**	**STN EN IEC 62149-3/AC** 35 9255

Fibre optic active components and devices - Performance standards - Part 3: Modulator-integrated laser diode transmitters for 40-Gbit/s fibre optic transmission systems

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/21

Obsahuje: EN IEC 62149-3:2020/AC Mar.:2021, IEC 62149-3:2020/COR1:2021

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62149-3:2020/AC:2021-03

March 2021

ICS 33.180.20

English Version

Fibre optic active components and devices - Performance standards - Part 3: Modulator-integrated laser diode transmitters for 40-Gbit/s fibre optic transmission systems (IEC 62149-3:2020/COR1:2021)

Composants et dispositifs actifs fibroniques - Normes de performances - Partie 3: Émetteurs à diodes laser à modulateur intégré pour systèmes de transmission fibroniques 40 Gbit/s
(IEC 62149-3:2020/COR1:2021)

Aktive Lichtwellenleiterbauelemente und -geräte - Betriebsverhalten - Teil 3: Sender mit modulatorintegrierten Laserdioden für 40 Gbit/s-Lichtwellenleiter-Übertragungssysteme
(IEC 62149-3:2020/COR1:2021)

This corrigendum becomes effective on 5 March 2021 for incorporation in the English language version of the EN.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Endorsement notice

The text of the corrigendum IEC 62149-3:2020/COR1:2021 was approved by CENELEC as EN IEC 62149-3:2020/AC:2021-03 without any modification.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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IEC 62149-3
Edition 3.0 2020-07

FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PERFORMANCE STANDARDS –

Part 3: Modulator-integrated laser diode transmitters for 40-Gbit/s fibre optic transmission systems

IEC 62149-3
Édition 3.0 2020-07

COMPOSANTS ET DISPOSITIFS ACTIFS FIBRONIQUES – NORMES DE PERFORMANCES –

Partie 3: Émetteurs à diodes laser à modulateur intégré pour systèmes de transmission fibroniques 40 Gbit/s

CORRIGENDUM 1

Corrections to the French version appear after the English text.

Les corrections à la version française sont données après le texte anglais.

Clause 2 – Normative references

Add the following new reference:

IEC 61300-2-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-4: Tests – Fibre or cable retention*

Table 6 – Performance test plan

Replace the existing Table 6 with the following new table:

Test		Reference	Conditions	Sample size
Endurance tests of module	High temperature storage	IEC 60068-2-2	Temperature: T = T_{stg} max. Duration: > 2 000 h [b]	11
	Low temperature storage	IEC 60068-2-1	Temperature: T = T_{stg} min. Duration: > 2 000 h [b]	11
	Temperature cycling	IEC 60068-2-14	Test Na Temperature: T_A = T_{stg} min. T_B = T_{stg} max. Number of cycles = 100 duration of exposure [d]	11
	Damp heat	IEC 60068-2-78	T = 40 °C, RH = 95 %, 56 days	11

Test		Reference	Conditions	Sample size
	Cyclic moisture resistance	MIL-STD-883-1 Method 1004.7		11
Endurance test of laser diode on submount		IEC 62572-3	Temperature: at least two test temperatures: ϕ_e specified, constant power $T_{sub1} = T_{sub}$ max. $T_{sub2} \leq (T_{sub1} - 20)$ °C or $T_{sub2} \leq (T_{sub1} - 10)$ °C if applicable Duration: > 5 000 h [b]	 By agreement [c] By agreement [c]
Endurance test of photodiode in representative package		IEC 62572-3	Temperature: at least two test temperatures: V_R or I_R specified T_{sub1} = 125 °C min. [a] $T_{sub2} \leq (T_{sub1} - 30$ °C) Duration: > 1 000 h	 By agreement [c] By agreement [c]
Power cycle tests of the thermoelectric cooler			Number of cycles: 20 000 $T_{CASE} = T_{op\ max}$ $T_{sub} = T_{CASE}$ to $(T_{CASE} - \Delta T_{max})$	11
High temperature storage of the thermal sensor		MIL-STD-883-1 Method 1008.2	$T = T_{stg\ max}$ of the sensor	25
Fibre pull		IEC 61300-2-4	5 s, 3 times, pull force [e]: 10 N for fibre cables 5,0 N for buffered fibres 2,0 N for primary coated fibres	11
Mechanical shock		IEC 60068-2-27	5 000 m/s^2 , 1,0 ms 5 times/axis	11
Vibration		IEC 60068-2-6	200 m/s^2 , 20 Hz to 2 000 Hz, 4 min/cycle, 4 cycles/axis	11
Thermal shock		IEC 60068-2-14	ΔT = 100 °C	11
ESD		IEC 60749-26	Human body model	11
Internal moisture		IEC 60749-7	$\leq 5\ 000 \times 10^{-6}$	11

[a] Or as limited by technology.

[b] Provided data about the distribution of wear-out lifetime is accumulated with significant accuracy. Provisional approval for product shipment shall be granted at 2 000 h. It is also recommended to continue the test until accurate extrapolation of lifetime is possible with an upper limit of 10 000 h. Duration up to 5 000 h may be needed for accurate lifetime prediction.

[c] The number shall be determined by discussion between the manufacturers and users concerned.

[d] Duration of exposure shall be specified in the relevant specification.

[e] Pull force shall be specified by the corresponding fibre/cable categories described in IEC 61300-2-4.