

# DEMKO CERTIFICATE

<b>Certificate No.</b>	D-09948
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<b>Date of Issue</b>	2023-07-14
<b>Certificate Holder</b>	EVERLIGHT ELECTRONICS CO LTD 6-8 ZHONGHUA RD SHULIN DISTRICT NEW TAIPEI 23860 TAIWAN
<b>Production site</b>	EVERLIGHT ELECTRONIC (CHINA) CO LTD 2135 ZHONG SHAN NORTH RD WUJIANG ECONOMY DEVELOPMENT ZONE (YUN XI AREA), SONGLING TOWN WUJIANG CITY, JIANGSU, 215000 CHINA
<b>Certified Product</b>	Optocoupler
<b>Model</b>	EL6150A., EL603A5., EL606A3., ELR3203., ELM684. See page 2-14 for additional Information
<b>Trademark</b>	EVERLIGHT
<b>Ratings</b>	250Vrms
<b>Tested according to</b>	EN 60335-1:2012, EN 60335-1:2012/A11:2014, EN 60335-1:2012/A13:2017, EN 60335-1:2012/A1:2019, EN 60335-1:2012/A14:2019, EN 60335-1:2012/A2:2019, EN 60335-1:2012/A15:2021, EN IEC 62368-1:2020, EN IEC 62368-1:2020/A11:2020, EN 61347-1:2015, EN 61347-1:2015/A1:2021
<b>Test Report No.</b>	P23226996 issued on 2023-04-11 P23226996/A1 issued on 2023-05-09
<b>Additional</b>	This certificate replaces the earlier issued D-08197-A2 dated 2022-08-18
<b>Expire date</b>	2033-04-10

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**Certification Manager**  
Thomas Wilson

This is to certify that representative sample(s) of the Product described herein ("Certified Product") have been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the D-Mark Requirements. As specified in the respective appendix below the Designated Certificate holder is entitled to use the D-Mark, or its alternative for cables, for the Certified Product manufactured at the production site(s) identified above, in accordance with the D-Mark Service Agreement, including without limitation the D-Mark Testing and Certification Services Service Terms. Only those Products bearing the D-Mark should be considered as being covered by UL's D-Mark Service. This Certificate shall remain valid through the expiration date, unless terminated earlier in accordance with the Service Agreement including without limitation if the Standard identified on this Certificate is amended or withdrawn prior the expiration date.

**Certification Body**

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**Additional Model(s):**

EL817. /EL816. /EL819. /EL829. /EL826. /EL827. /EL717. /4N25. /4N26. /4N27. /4N28. /4N35. /4N36. /4N37. /4N38. /MCT2. /MCT2E. /MCT210. /CNY17-1. /CNY17-2. /CNY17-3. /CNY17-4. /MOC8111. /MOC8112. /MOC8113. /H11A1. /H11A2. /H11A3. /H11A4. /H11A5. /TIL111. /TIL117. /CNX35U.o

**Principal Characteristics**

Optocoupler. Minimum external creepage distance is measured to 7.7mm, minimum internal creepage distance is measured to 6.0mm and minimum distance through insulation is measured to 0.5mm. .96(hroureetmm)87r

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**Certification Body**

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H11L3. / H11D1. / H11D2. / H11D3. / H11D4. / H11G1. / H11G2. / H11G3. / EL371. / EL725. / 4N50. / 4N51. / 4N52. / 4N53. / 4N54. / 4N55. / 4N56. / 4N57. / 4N58. / 4N59. / EL852. / EL851.

## Principal Characteristics

Optocoupler. Minimum external creepage distance is measured to 7.7mm, minimum internal creepage distance is measured to 5.5mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in

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EV101U.

## Principal Characteristics

Optocoupler. Minimum external creepage distance is measured to 8.1mm, minimum internal creepage distance is measured to 5.2mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 125 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A~Z or numbers, and denote different pin shape. Maximum operating temperature: 125°C

ELW3120. / ELW3140. / ELW3150. / ELW3180. / ELW3184.

## Principal Characteristics

IGBT Gate Drive Optocoupler. Minimum external creepage distance is measured to 11.85mm, minimum internal creepage distance is measured to 7.72mm and minimum distance through insulation is measured to 0.9mm. Tested for reinforced insulation. Maximum operating temperature: 110°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A~Z or numbers, and denote different pin shape.

ELW137. / ELW139. / ELW2601. / ELW2611. / ELW136. / ELW135. /ELW4502. /ELW4503. / ELW138. / ELW260L. / ELW250L. / ELW4504. /ELW2200. /ELW2201. / ELW2202. / ELW2219. / ELW2211. / ELW2212.

## Principal Characteristics

High Speed Optocoupler. Minimum external creepage distance is measured to 11.85mm, minimum internal creepage distance is measured to 7.72mm and minimum distance through insulation is measured to 0.9mm. Tested for reinforced insulation. Maximum operating temperature: 100°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A~Z or numbers, and denote different pin shape.

ELT301X. / ELT302X. / ELT305X. / ELT303X. / ELT304X. / ELT306X. / ELT308X. /ELT307X.

## Principal Characteristics

Triac Optocoupler. Minimum external creepage distance is measured to 7.7mm, minimum internal creepage distance is measured to 6.0mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Maximum operating temperature: 110°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "X" in type denotes X = Part no. (0,1,2,3,4). The symbol "." in type designation may be blank, A~Z or numbers, and denote different pin shape.

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ELS680.

## Principal Characteristics

High Speed Optocoupler . Minimum external creepage distance is measured to 8.4mm, minimum internal creepage distance is measured to 5.56mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output numbers, and denote different pin shape.

Maximum operating temperature:100 °C.

ELS60U. / ELS61U. / ELS62U.

## Principal Characteristics

High Speed Optocoupler . Minimum external creepage distance is measured to 8.4mm, minimum internal creepage distance is measured to 5.56mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output numbers, and denote different pin shape.

Maximum operating temperature:100 °C.

ELS500./ ELS501./ ELS511./ ELS050L./ ELS051L./ ELS052L./ ELS600./ ELS601./ ELS611./ ELS060L./ ELS061L./ ELS062L.

## Principal Characteristics

High Speed Optocoupler . Minimum external creepage distance is measured to 8.4mm, minimum internal creepage distance is measured to 5.56mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output numbers, and denote different pin shape.

Maximum operating temperature:100 °C.

ELS3120. / ELS3140. / ELS3150. / ELS3180. / ELS3184.

## Principal Characteristics

High Speed Optocoupler . Minimum external creepage distance is measured to 8.4mm, minimum internal creepage distance is measured to 5.56mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output numbers, and denote different pin shape.

Maximum operating temperature: 110 °C

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ELS270. / ELS271. / ELS272.

## Principal Characteristics

High Speed Optocoupler . Minimum external creepage distance is measured to 8.4mm, minimum internal creepage distance is measured to 5.56mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output numbers, and denote different pin shape.

Maximum operating temperature:100 °C.

ELR3602. / ELR3603. / ELR2602. / ELR2603. / ELR1602. / ELR1603. /ELR3502. / ELR3503. / ELR2502. / ELR2503. / ELR1502. / ELR1503. /ELR0223. / ELR1223. / ELR2223./ ELR3223.

## Principal Characteristics

Power Triac Optocoupler. Minimum external creepage distance is measured to 8.2mm, minimum internal creepage distance is measured to 5.1mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength tests, between input and output numbers, and denote different pin shape.

Maximum operating temperature: 100°C

ELR0323. / ELR1323. / ELR2323. / ELR3323. / ELR0313. / ELR1313. / ELR2313. / ELR3313. / ELR0213. / ELR1213. / ELR2213. / ELR3213. / ELR3203.

## Principal Characteristics

Power Triac Optocoupler. Minimum external creepage distance is measured to 8.2mm, minimum internal creepage distance is measured to 5.1mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 85 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength tests, between input and output numbers, and denote different pin shape.

Maximum operating temperature: 85°C

ELM684.

## Principal Characteristics

High Speed Optocoupler. Minimum external creepage distance is measured to 5.0mm, minimum internal creepage distance is measured to 4.0mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Maximum operating temperature: 100°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A-Z or numbers, and denote different pin shape.

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ELM61U.

## Principal Characteristics

High Speed Optocoupler. Minimum external creepage distance is measured to 5.0mm, minimum internal creepage distance is measured to 4.0mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Maximum operating temperature: 100°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A-Z or numbers, and denote different pin shape.

ELM60U.

## Principal Characteristics

High Speed Optocoupler. Minimum external creepage distance is measured to 5.0mm, minimum internal creepage distance is measured to 4.0mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Maximum operating temperature: 100°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A-Z or numbers, and denote different pin shape.

ELM460A./ ELM840A./ ELM860A. / ELM425A.

## Principal Characteristics

Solid State Relay. Minimum external creepage distance is measured to 5.7mm, minimum internal creepage distance is measured to 4.31mm and minimum distance through insulation is measured to 0.3mm. Tested for basic and supplementary insulation.

Thermal cycling test, 10 cycles. Each cycle: 68h in 125 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output numbers, and denote different pin shape.

Maximum operating temperature: 125 °C.

ELM456. / ELM61L. / ELM680. / ELM511.

## Principal Characteristics

High Speed Optocoupler. Minimum external creepage distance is measured to 5.0mm, minimum internal creepage distance is measured to 4.0mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Maximum operating temperature: 100°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A-Z or numbers, and denote different pin shape.

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ELM453H. / ELM611H.

## Principal Characteristics

High Speed Optocoupler. Minimum external creepage distance is measured to 5.0mm, minimum internal creepage distance is measured to 4.0mm and minimum

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ELL300.

## Principal Characteristics

Linear Optocoupler. Minimum external creepage distance is measured to 8.0mm, minimum internal creepage distance is measured to 0.90mm and minimum distance through insulation is measured to 0.90mm. Tested for basic/supplementary insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and designation may be blank, A~Z or numbers, and denote different pin shape.

Maximum operating temperature: 110 °C.

ELL200.

## Principal Characteristics

Linear Optocoupler. Minimum external creepage distance is measured to 11.85mm, and minimum distance through insulation is measured to 1.0mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 m may be blank, A~Z or numbers, and denote different pin shape. Maximum operating temperature: 110 °C.

ELD851. /ELD852. /4N29. /4N30. /4N31. /4N32. /4N33. /H11B1. /H11B2. /H11B3. /H11B255. /TIL113. /MOC119. /MOC8020. /MOC8021. /MOC8030. /MOC8050. /MOC8080. /EL301X. /EL302X. /EL305X. /EL307X. /EL303X. /EL304X. /EL306X. /EL308X. /EL3161. /EL3162. /EL3163. /H11L1. /H11L2.

## Principal Characteristics

Optocoupler. Minimum external creepage distance is measured to 7.7mm, minimum internal creepage distance is measured to 5.5mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 denote different pin shape. Maximum

operating temperature: 100°C. The symbol “

ELD3H5. / ELD3H6. / ELD3H7. / ELD3H4. / ELQ3H4. / ELQ3H5. / ELQ3H7. / ELM314.

## Principal Characteristics

Optocoupler. Minimum external creepage distance is measured to 5.0mm, minimum internal creepage distance is measured to 4.0mm and minimum distance through insulation is measured to 0.4mm. Tested for reinforced insulation. Maximum operating temperature: 110°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A~Z or numbers, and denote different pin shape.

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EL847. / EL844. / EL845.

## Principal Characteristics

Optocoupler. Minimum external creepage distance is measured to 8.0mm, minimum internal creepage distance is measured to 5.1mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength tests, between input and output 4800Vac/1 minute. The symbol "." in type designation may be A to Z, numbers or blank, denote different pin shape. Maximum operating temperature: 110°C

EL817H.

## Principal Characteristics

Optocoupler. Minimum external creepage distance is measured to 7.7mm, minimum internal creepage distance is measured to 6.0mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 125 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symb denote different pin shape. Maximum operating temperature: 125°C

EL815. / EL814. / EL824. / EL825.

## Principal Characteristics

Optocoupler. Minimum external creepage distance is measured to 7.9mm, minimum internal creepage distance is measured to 6.0mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A-Z or numbers, and denote different pin shape. Maximum operating temperature: 110°C

EL806A. /EL810A. /EL820A. /EL825A. /EL835A. /EL840A. /EL860A. /EL860A-V /EL406A. /EL410A. /EL420A. /EL425A. /EL435A. /EL440A. /EL460A. /EL606A. /EL610A. /EL620A. /EL625A. /EL635A. /EL640A. /EL660A.

## Principal Characteristics

Solid State Relay. Minimum external creepage distance is measured to 7.7mm, minimum internal creepage distance is measured to 6.0mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Maximum operating temperature: 125°C. Thermal cycling test, 10 cycles. Each cycle: 68h in 125 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A-Z or numbers, and denote different pin shape.

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EL0500. /EL0501. /EL0452. /EL0453. /EL0454. /EL0600. /EL0601. /EL0611. /EL0700. /EL050L. /EL060L. /EL0701.  
/EL061A. /EL061N. /EL0551. /EL0530. /EL0531. /EL0533. /EL063X. /EL0661. /EL0730. /EL0731. /EL053L.

## Principal Characteristics

High Speed Optocoupler . Minimum external creepage distance is measured to 4.4mm, minimum internal creepage distance is measured to 3.5mm and minimum distance through insulation is measured to 0.4mm. Tested for basic and supplementary insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test may be blank, A~Z or numbers, and denote

different pin shape. Maximum

EL0200. / EL0201. / EL0202. / EL0210. / EL0211. / EL0212.

## Principal Characteristics

High Speed Optocoupler . Minimum external creepage distance is measured to 4.4mm, minimum internal creepage distance is measured to 3.5mm and minimum distance through insulation is measured to 0.4mm. Tested for basic and supplementary insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 100 degree C, 1h in 25degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and may be blank, A~Z or numbers, and denote different pin shape.

Maximum

CNX36U. /CNX38U. /CNX39U. /SL5500. /SL5501. /SL5504. /SL5511. /MOC8100. /MOC8101. /MOC8102. /MOC8103.  
/MOC8104. /MOC8105. /MOC8106. /MOC8107. /MOC8108. /EL9001. /CNY17F-1. /CNY17F-2. /CNY17F-3.  
/CNY17F-4. /H11AA1. /H11AA2. /H11AA3. /H11AA4. /HS817. /K817P. /TCET110.

## Principal Characteristics

Optocoupler. Minimum external creepage distance is measured to 7.7mm, minimum internal creepage distance is measured to 6.0mm and minimum distance through insulation is measured to 0.5mm. Tested for reinforced insulation. Thermal cycling test, 10 cycles. Each cycle: 68h in 110 degree C, 1h in 25 degree C, 2h in 0 degree C and 1h in 25 degree C. After the cycling test a humidity test for 48h in 93% relative humidity. Electric strength test between input and output 4800Vac/1 minute. The symbol "." in type designation may be blank, A~Z or numbers, and denote different pin shape. Maximum operating temperature: 110°C. Tested for 5000m.

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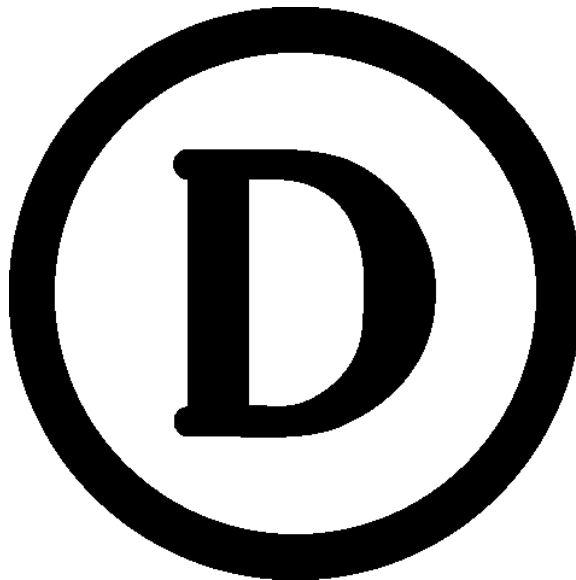


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## **Certification Mark D-Mark**

The D-Mark, as displayed below, shall appear on certified products only. Except as specified below the Mark shall be legible and no Minimum size is specified.



The size of the Mark may be reduced or enlarged on the condition that it remains readable and that the proportions of width and height are kept. The use of dark text for the D-Mark on light backgrounds and light text on dark backgrounds is permitted.

The D-Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or

also appear elsewhere on the product

clearly visible location and position on the product, on the package and in the user manual. It can be affixed by label, be directly imprinted, or cast or molded into the product.

Where the size of the product does not allow the Mark, number to be legible, and appearance on a label is not desired, it is allowed to cast, stamp or mold the Mark into the mark of origin and model number appears on the package and in the user manual

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## **Alternate certification Mark for cables**

As an alternative to the D-Mark specified above the alternate D-Mark, displayed below, can appear on certified cables only. Minimum size is not specified, as long as the mark is legible.

<DEMKO>

The alternate D-Mark may be cast, stamped or molded into the cable and continue throughout the length of the cable as specified in the applicable cable standard.

All content shall be in accordance with the details provided on this D-Mark Certificate.

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**Certification Body**

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