

1. GENERAL

1.1. SCOPE OF VALIDITY

This norm describes technical and quality requirements of products SCHURTER Electronics. This document is valid for all parts if are not described other requests in drawings, in a specification, respectively in an order.

Validity of this document is not limited only internally for SCHURTER Electronics, but it also a basis for arrangements with customers. All variances, exceptions and special arrangements must be approved in writing by SCHURTER Electronics and by a customer side.

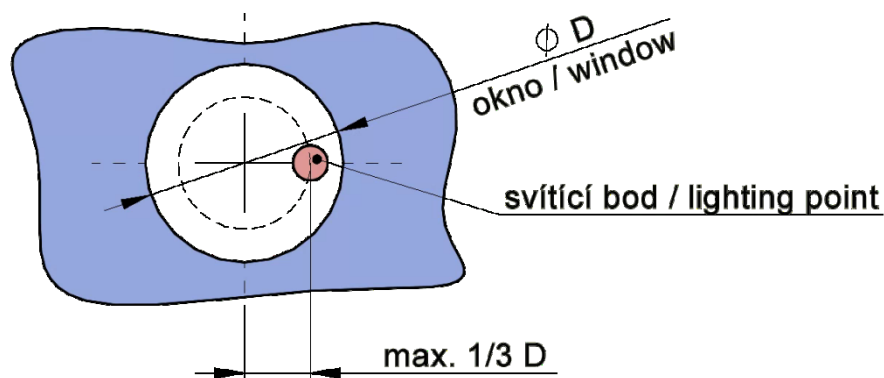
1.2. Next notes

A user is not allowed to make its own changes (notes, inscriptions, etc.). Technical archive SCHURTER Electronics has only authority to make any changes in this norm, which officially release changes in the controlled mode.

2. OPTICAL PARAMETERS

2.1. Center of a LED luminous point

All LEDs must be in a window center – maximal overlap is a 1/3 of a window, an illuminated area by LEDs must be fully visible. An offset is valid only for one-color LED. A center of illumination of a multi-color LED is a geometry center of all color illumination points. In this case is valid also that all color emitted points must be inside a window.



2.2. Type and number of defects of components and assembled units

Type and number of defects of an individual components (foil, glass, touch sensor, display, ...) are according to a manufacture's specifications.

For assembled products from multiple components (foil, glass, touch sensor, display, ...) is a maximal allowed number of defects equal a sum of a maximum allowed defects of an individual components.

2.3. Optically clear adhesive (OCA)

When is optically clear adhesive used, it's not always possible to eliminate bubbles, that can appears at a place of a crossing printed and not-printed area, it means in a place of a window. Maximum allowed distance of bubbles from window edge is 1mm.

2.4. Anodized surfaces

A hue of an anodized surface depends on many factors and can be different between production batches.

2.5. Glasses thermally strengthened

During a glass thermally strengthening process can appears additional optical defects.

2.6. Protective foils

Products with a capacitive touch sensor can be tested in a test device for check correct function. As a result of this test can appear visible lines on a protective foil in a shape of a testing pattern in a touch sensor active area or a display active area.

2.7. Flatness

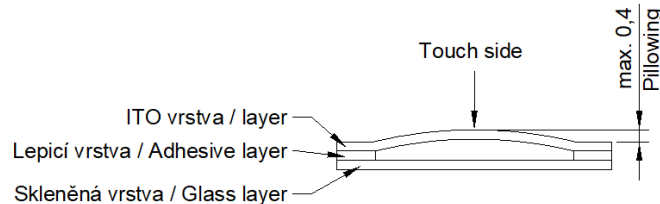
It's not possible to exclude noticeable elevations (protrusions, bulges, slopes) of front foils in areas of keyboard tails and input areas of inserted labels.

2.8. Allowed line thickness fluctuations

A minimal allowed line thickness fluctuation is $\pm 0,1$ mm.

2.9. Pillowing of resistive touch sensors

Pillowing is a distortion of a top layer of a touch sensor. A maximum allowed pillowing is 0,4mm.



2.10. Optical requirements of the scratches

max. scratch:

- width ≤ 0.05 mm and any length: ignore
- width ≤ 0.1 mm and length < 10 mm: ignore
- width ≤ 0.1 mm and length ≥ 10 mm: not allowed
- width > 0.1 mm: not allowed

3. STORAGE / SELF-LIFE OF A PRODUCT

3.1. Protective foils

A protective foil or printed protective layer (Print&Peel) must be removed **within 30 days** of a delivery.

3.2. Adhesive layer

If a product/part has an adhesive layer (it means keyboard, self-adhesive gasket, layer, ...) must be this product glued/laminated **within 6 months** of a delivery.

REVISION HISTORY

Release:	Date:	Description:
E1	30.4.2011	First version
E2	29.6.2011	Optical check against a dark background
E3	14.10.2011	Adaption to DIN 42115
E4	2.8.2012	Notes to a display and a touch sensor appearance
E5	24.9.2012	Only text modifications at the point 1.1.
E6	13.11.2012	Picture to a LED at point 7.1
01	22.11.2012	Official release (only Germany)
02	13.2.2013	Outline tolerances according to ISO 2768-mK at the point 4.2 Better formulation at the point 5.3
03	2.2.2015	Parameters of a glass optical inspection were added at the point 5.4
04	24.2.2015	Parameters of a glass optical inspection were updated at the point 5.4
05	5.11.2015	Electronics signatures was added into a signature table
06	11.10.2017	Logo was changed
07	29.1.2018	Harmonization according to FT (Fachgemeinschaft Eingabesysteme)
08	16.8.2018	OCA – distance of bubbles from window, Pillowing of resistive touch sensors
09	14.6.2019	Optical requirements of the scratches
10	26.3.2021	Correction of the picture of the point 2.1

	Jméno:	Datum:	Podpis:
Made:	Milan Dvořáček		
Approved by (IMS):	Marek Brázda		
Approved by (RM):	Magda Večeřová		
Allowed to use (MD):	Marek Brázda		