BS IEC 62899-302-3:2021

BSI Standards Publication

Printed electronics

Part 302-3: Equipment — Inkjet — Imaging-based measurement of drop direction

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The UK participation in its preparation was entrusted to Technical Committee AMT/9, Printed Electronics.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Published by BSI Standards Limited 2021

ISBN 978 0 539 01242 2

ICS 19.080; 37.100.10

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 February 2021.

Amendments/corrigenda issued since publication

Date	Text affected

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Full document details: BS IEC 62899-302-3:2021

IEC 62899-302-3

Edition 1.0 2021-01

INTERNATIONAL STANDARD

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Printed electronics –
Part 302-3: Equipment – Inkjet – Imaging-based measurement of drop direction

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 19.080; 37.100.10

ISBN 978-2-8322-9286-0

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PRINTED ELECTRONICS –

Part 302-3: Equipment – Inkjet – Imaging-based measurement of drop direction

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International Standard IEC 62899-302-3 has been prepared by IEC technical committee 119: Printed Electronics.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
119/332/FDIS	119/344/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
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INTRODUCTION

Establishing the jetted drop direction under specific operating conditions of inks and inkjet print-heads is significant for accurate drop placement during the manufacture of printed electronics. Manufacturers that include such print-heads in their equipment should know the angular spread of ink drop directions because this influences the achievable spatial resolution of the printed material, and in particular whether any neighbouring conducting tracks could be connected by stray materials, which would affect the printed electronics' product performance. This document defines the methods for in-flight imaging measurement of jetted drop direction from drop-on-demand type inkjet print-heads to be used in printed electronics equipment.

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PRINTED ELECTRONICS –

Part 302-3: Equipment – Inkjet – Imaging-based measurement of drop direction

1 Scope

This part of IEC 62899 specifies in-flight imaging methods for the measurement of the direction of ink drops jetted from inkjet print-heads using drop watchers. It does not apply to holographic or other interference techniques, or to any method assessing deposited ink drops. It is specific to drop-on-demand type inkjet print-heads (used in printed electronics equipment).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62899-302-1, *Printed electronics – Equipment – Inkjet – Imaging based measurement of jetting speed*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62899-302-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
inkjet nozzle plane
flat outer surface of the inkjet print-head nozzle plate

Note 1 to entry: The inkjet nozzle plane is defined for a drop-on-demand multi-nozzle print-head, or as otherwise specified by the print-head manufacturer or inkjet equipment integrator and stated in the measurement results.

3.2
nozzle row direction
line in the inkjet nozzle plane passing through a row of nozzle exit centres

Note 1 to entry: Typically along the length of the inkjet nozzle plane, or as otherwise specified by the print-head manufacturer or inkjet equipment integrator and stated in the measurement results.

3.3
reference direction
normal angle (90°) to the inkjet nozzle plate

Note 1 to entry: Or as otherwise specified by the print-head manufacturer or inkjet equipment integrator and stated in the measurement results.

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