

Symbolic representation for process measurement control functions and instrumentation —

**Part 4: Specification for basic symbols
for process computer, interface and
shared display/control functions**

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Industrial-process Measurement and Control Standards Committee (PCL/-) to Technical Committee PCL/4 upon which the following bodies were represented:

- Association of Consulting Engineers
- British Industrial Measuring and Control Apparatus Manufacturers' Association (BEAMA)
- Energy Industries Council
- Institute of Measurement and Control
- Institution of Gas Engineers
- Ministry of Defence
- Transmission and Distribution Association (BEAMA)

This British Standard, having been prepared under the direction of the Industrial-process Measurement and Control Standards Committee, was published under the authority of the Board of BSI and comes into effect on 30 April 1984

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Foreword

This Part of BS 1646 has been prepared under the direction of the Industrial-process Measurement and Control Standards Committee and is technically equivalent to the International Electrotechnical Commission (IEC) document 65 (Central Office) 30 “Industrial-process measurement and control functions and instrumentation — Symbolic representation — Basic symbols for process computer, interface, and shared display/control functions”. This IEC document is also technically equivalent to the International Organization for Standardization (ISO) draft international standard ISO/DIS 3511/4 “Industrial process measurement control functions and instrumentation — Symbolic representation, Part 4: Basic symbols for process computer, interface, and shared display/control functions”. Which of the two international bodies will eventually publish the international standard has yet to be decided. However, rather than await the publication of the international standard, and in recognition of the urgent need of the industry for a standard with world-wide application based on an international text, the decision has been taken to publish a corresponding British Standard.

The text of this standard is based on the IEC document with some editorial corrections. It is anticipated that any differences between either the ISO or IEC standards and this British Standard will be of a minor nature.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

0 Introduction

This Part of BS 1646 has been devised to provide a universal means of communication among the various interests involved in the design, manufacture, installation and operation of measurement and control equipment used in the process industries.

Requirements within the industries vary considerably; in recognition of this, this British Standard is presented in four Parts, as follows:

Part 1: *Basic requirements (directed towards the needs of those employing comparatively simple measurements and control means);*

Part 2: *Additional basic requirements;*

Part 3: *Detailed symbols for instrument interconnection diagrams;*

Part 4: *Basic symbols for process computer, interface and shared display/control functions.*

The four Parts together are intended to:

- a) meet the requirements of those who, possibly employing more sophisticated measurement and control means, may wish to depict such aspects as the measurement techniques embodied in a particular instrument, or the means — hydraulic, pneumatic, electrical, mechanical — used for its actuation;
- b) provide standard symbolic representation for process measurement control functions and instrumentation. These symbols are not intended to replace graphic symbols for electrical equipment as given in BS 3939.

1 Scope and field of application

This Part of BS 1646 specifies symbols for the representation of process computer and shared/control functions in the field of process measurement and control.

The symbols established in this part have been developed to be used in conjunction with the symbols devised in BS 1646-1 and BS 1646-2 and are supplementary.

They are intended to provide a means to illustrate process computer and/or shared display/control functions in the field of process measurement and control and may be used separately or combined with the symbols of BS 1646-1 and BS 1646-2. They will enable users to show and identify in a simple form the functions of instruments, the process computer and shared display/control functions or any combination of these.

It is permissible to use the basic symbol for computer based functions (see 3.1) throughout for any software based digital system. This is not intended to preclude the use of the basic symbol for shared display/control functions (see 3.2) if the user considers this to be appropriate.

The symbols are intentionally limited to the identification on process flow diagrams, etc and do not provide a means of illustrating specific instruments or parts thereof.

The letter code for function identification is given in the Tables of BS 1646-1 and BS 1646-2.

The application methods are shown in the examples.

NOTE The titles of the publications referred to in this standard are listed on Inside back cover.

2 Definitions

The definitions given in BS 1646-1 and BS 1646-2 equally apply to this Part of BS 1646.

The following definitions also apply.

2.1

programmable

the capability of the system to accept computer language created by the user for performing control strategies or complex functions

2.2

process computer

a programmable device that operates in real time on process data, on-line (primarily sensor based), to perform user specifiable supervision and/or control functions