

Australian Standard™

**Industrial automation systems
and integration—Product data
representation and exchange**

**Part 46: Integrated generic
resources: Visual presentation**

This Australian Standard was prepared by Committee IT/6, Information Technology for Industrial Automation and Integration. It was approved on behalf of the Council of Standards Australia on 16 June 1998 and published on 5 September 1998.

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Australian Standard™

**Industrial automation systems
and integration—Product data
representation and exchange**

**Part 46: Integrated generic
resources: Visual presentation**

First published as AS 10303.46—1998.

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT/6, Information Technology for Industrial Automation and Integration. The Standard is the result of a consensus among the representatives on the Joint Committee that it be produced as an Australian Standard. It is identical with and has been reproduced from ISO 10303-46:1994, *Industrial automation systems and integration—Product data representation and exchange*, Part 46: *Integrated generic resources: Visual representation*.

The objective of this Standard is to provide users of integrated automation systems with the integrated resources for the visualization of displayable product information. This information is combined with product data such that a receiving system can construct one or several pictures of the product information suitable for human perception.

This Standard is Part 46 of AS 10303, *Industrial automation systems and integration—Product data representation and exchange*, which is published in Parts as follows:

- Part 1: Overview and fundamental principles
- Part 11: Description methods: The EXPRESS language reference manual
- Part 21: Implementation methods: Clear text encoding of the exchange structure
- Part 31: Conformance testing methodology and framework: General concepts
- Part 41: Integrated generic resources: Fundamentals of product description and support
- Part 42: Integrated generic resources: Geometric and topological representation
- Part 43: Integrated generic resources: Representation structures
- Part 44: Integrated generic resources: Product structure configuration
- Part 46: Integrated generic resources: Visual presentation (this Standard)
- Part 101: Integrated application resources: Draughting
- Part 201: Application protocol: Explicit draughting
- Part 203: Application protocol: Configuration controlled design

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

Annex C, which is in the form of computer-interpretable listings, and Annex A are supplied on a diskette, which is part of this Standard.

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<i>Reference to International Standard or other publication</i>	<i>Australian or Joint Australian/New Zealand Standard</i>
ISO	AS
10303 Industrial automation systems and integration—Product data representation and exchange	10303 Industrial automation systems and integration—Product data representation and exchange
10303-1 Part 1: Overview and fundamental principles	10303.1 Part 1: Overview and fundamental principles
10303-11 Part 11: Description methods: The EXPRESS language reference manual	10303.11 Part 11: Description methods: The EXPRESS language reference manual

ISO

- 10303-41 Part 41: Integrated generic resources: Fundamentals of product description and support
- 10303-42 Part 42: Integrated generic resources: Geometric and topological representation
- 10303-43 Part 43: Integrated generic resources: Representation structures

ISO/IEC

- 8824 Information technology—Open Systems Interconnection—Abstract Syntax Notation One (ASN.1)
- 8824-1 Part 1: Specification of basic notation —

AS

- 10303.41 Part 41: Integrated generic resources: Fundamentals of product description and support
- 10303.42 Part 42: Integrated generic resources: Geometric and topological representation
- 10303.43 Part 43: Integrated generic resources: Representation structures

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CONTENTS

	<i>Page</i>
1 Scope	1
2 Normative references	2
3 Definitions and abbreviations	3
3.1 Terms defined in ISO 10303-1	3
3.2 Terms defined in this part of ISO 10303	3
3.2.1 annotation	3
3.2.2 displayable product information	3
3.2.3 layer	3
3.2.4 picture	3
3.2.5 presentation information	4
3.2.6 realistic presentation of properties	4
3.2.7 state variable	4
3.2.8 symbol	4
3.2.9 symbolic presentation of properties	4
3.2.10 synthetic camera model	4
3.2.11 visualization	4
3.3 Abbreviations	4
4 Presentation organization	5
4.1 Introduction	6
4.2 Fundamental concepts and assumptions	9
4.2.1 Presentation hierarchy	9
4.2.2 Camera model and projection	11
4.2.3 Layers	12
4.2.4 Association of presentation with a product model	12
4.3 Presentation organization schema type definitions	12
4.3.1 presentation_size_assignment_select	12
4.3.2 area_or_view	12
4.3.3 central_or_parallel	13
4.3.4 layered_item	13
4.3.5 presentation_representation_select	13
4.4 Presentation organization schema entity definitions: presentation hierarchy	14
4.4.1 presentation_set	14
4.4.2 presentation_representation	14
4.4.3 presentation_area	15
4.4.4 area_in_set	16
4.4.5 presentation_view	16
4.4.6 area_dependent_annotation_representation	16
4.4.7 product_data_representation_view	17
4.4.8 view_dependent_annotation_representation	18
4.4.9 presentation_size	19
4.4.10 background_colour	20
4.4.11 presentation_representation_relationship	20
4.4.12 graphical_transformation	22

4.5	Presentation organization schema entity definitions: camera model and projection	23
4.5.1	camera_model	23
4.5.2	camera_model_d2	24
4.5.3	camera_model_d2_shape_clipping	25
4.5.4	camera_model_d3	25
4.5.5	view_volume	26
4.5.6	camera_model_d3_with_hlhrs	30
4.5.7	camera_model_d3_multi_clipping	30
4.5.8	camera_model_with_light_sources	30
4.5.9	light_source	31
4.5.10	light_source_ambient	31
4.5.11	light_source_directional	32
4.5.12	light_source_positional	32
4.5.13	light_source_spot	33
4.5.14	camera_image	34
4.5.15	camera_usage	35
4.6	Presentation organization schema entity definitions: layers	36
4.6.1	presentation_layer_assignment	36
4.6.2	representation_item_dependent_layer_assignment	36
4.6.3	presentation_layer_usage	37
4.7	Presentation organization schema entity definitions: association of presentation and product model	38
4.7.1	presented_item_representation	38
4.7.2	presented_item	38
4.8	Presentation organization schema rule definitions	39
4.8.1	symbol_representation_rule	39
4.9	Presentation organization schema function definitions	39
4.9.1	acyclic_presentation_representation_relationship	39
5	Presentation definition	40
5.1	Introduction	42
5.2	Fundamental concepts and assumptions	42
5.3	Presentation definition schema type definitions	43
5.3.1	text_delineation	43
5.3.2	defined_symbol_select	44
5.3.3	text_or_character	44
5.3.4	text_alignment	44
5.3.5	defined_glyph_select	45
5.3.6	text_path	45
5.4	Presentation definition schema entity definitions: annotation primitives	46
5.4.1	annotation_fill_area	46
5.4.2	defined_symbol	48
5.4.3	defined_table	48
5.4.4	symbol_target	49
5.4.5	pre_defined_symbol	49
5.4.6	externally_defined_symbol	49
5.4.7	annotation_symbol	50

5.4.8	annotation_table	50
5.4.9	symbol_representation_map	52
5.4.10	symbol_representation	52
5.4.11	symbol_representation_with_blanking_box	53
5.4.12	table_representation	53
5.4.13	table_record_representation	53
5.4.14	table_record_field_representation	54
5.4.15	table_record_field_representation_with_clipping_box	54
5.4.16	symbol_representation_relationship	55
5.4.17	table_representation_relationship	56
5.4.18	annotation_text	57
5.4.19	annotation_text_with_extent	57
5.4.20	annotation_text_with_delineation	58
5.4.21	annotation_text_with_blanking_box	58
5.4.22	annotation_text_with_associated_curves	58
5.4.23	text_string_representation	59
5.4.24	annotation_text_character	60
5.4.25	defined_character_glyph	61
5.4.26	externally_defined_character_glyph	61
5.4.27	pre_defined_character_glyph	61
5.4.28	text_literal	62
5.4.29	text_literal_with_extent	62
5.4.30	text_literal_with_delineation	63
5.4.31	text_literal_with_blanking_box	63
5.4.32	text_literal_with_associated_curves	63
5.4.33	composite_text	64
5.4.34	composite_text_with_extent	64
5.4.35	composite_text_with_delineation	64
5.4.36	composite_text_with_blanking_box	65
5.4.37	composite_text_with_associated_curves	65
5.5	Presentation definition schema entity definitions: annotation occurrences	65
5.5.1	annotation_occurrence	65
5.5.2	annotation_point_occurrence	66
5.5.3	annotation_curve_occurrence	66
5.5.4	annotation_fill_area_occurrence	67
5.5.5	annotation_text_occurrence	67
5.5.6	annotation_symbol_occurrence	68
5.5.7	annotation_table_occurrence	68
5.5.8	annotation_occurrence_relationship	68
5.5.9	table_text_relationship	69
5.6	Presentation definition schema function definitions	70
5.6.1	acyclic_composite_text	70
5.6.2	acyclic_symbol_representation_relationship	71
5.6.3	field_in_table	72

	<i>Page</i>
6 Presentation appearance	74
6.1 Introduction	76
6.2 Fundamental concepts and assumptions	76
6.2.1 Assignment of presentation style	76
6.2.2 Types of presentation styles	77
6.2.3 Approximation tolerances	79
6.2.4 Occlusion and invisibility	79
6.3 Presentation appearance schema type definitions	80
6.3.1 style_context_select	80
6.3.2 presentation_style_select	80
6.3.3 null_style	80
6.3.4 marker_select	81
6.3.5 marker_type	81
6.3.6 size_select	82
6.3.7 curve_font_or_scaled_curve_font_select	82
6.3.8 curve_style_font_select	82
6.3.9 squared_or_rounded	83
6.3.10 fill_style_select	83
6.3.11 fill_area_style_tile_shape_select	83
6.3.12 curve_or_annotation_curve_occurrence	84
6.3.13 surface_side	85
6.3.14 surface_side_style_select	85
6.3.15 surface_style_element_select	85
6.3.16 curve_or_render	86
6.3.17 shading_curve_method	86
6.3.18 direction_count_select	86
6.3.19 u_direction_count	87
6.3.20 v_direction_count	87
6.3.21 shading_surface_method	87
6.3.22 rendering_properties_select	88
6.3.23 character_style_select	89
6.3.24 text_justification	89
6.3.25 box_characteristic_select	89
6.3.26 box_height	90
6.3.27 box_width	90
6.3.28 box_slant_angle	90
6.3.29 box_rotate_angle	90
6.3.30 character_spacing_select	91
6.3.31 symbol_style_select	91
6.3.32 tolerance_select	92
6.3.33 approximation_method	92
6.3.34 tolerance_deviation_select	93
6.3.35 curve_tolerance_deviation	94
6.3.36 surface_tolerance_deviation	94
6.3.37 product_or_presentation_space	94
6.3.38 tolerance_parameter_select	94
6.3.39 curve_tolerance_parameter	95
6.3.40 surface-tolerance_parameter	95
6.3.41 hiding_or_blanking_select	95
6.3.42 invisibility_context	96
6.3.43 invisible_item	96

6.4	Presentation appearance schema entity definitions: style assignment	96
6.4.1	styled_item	96
6.4.2	over_riding_styled_item	97
6.4.3	context_dependent_over_riding_styled_item	97
6.4.4	presentation_style_assignment	98
6.4.5	presentation_style_by_context	99
6.4.6	pre_defined_presentation_style	100
6.4.7	externally_defined_style	100
6.5	Presentation appearance schema entity definitions: presentation styles for points	100
6.5.1	point_style	100
6.5.2	pre_defined_marker	101
6.5.3	pre_defined_size	101
6.6	Presentation appearance schema entity definitions: presentation styles for curves	101
6.6.1	curve_style	101
6.6.2	curve_style_with_ends_and_corners	102
6.6.3	curve_style_with_extension	102
6.6.4	pre_defined_curve_font	103
6.6.5	externally_defined_curve_font	103
6.6.6	curve_style_font	104
6.6.7	curve_style_font_pattern	104
6.6.8	curve_style_wide	105
6.6.9	curve_style_curve_pattern_set	105
6.6.10	curve_style_curve_pattern	105
6.6.11	curve_style_font_and_scaling	106
6.7	Presentation appearance schema entity definitions: presentation styles for fill areas	107
6.7.1	fill_area_style	107
6.7.2	fill_area_style_colour	107
6.7.3	pre_defined_hatch_style	108
6.7.4	externally_defined_hatch_style	108
6.7.5	fill_area_style_hatching	108
6.7.6	pre_defined_tile_style	109
6.7.7	externally_defined_tile_style	110
6.7.8	fill_area_style_tiles	110
6.7.9	fill_area_style_tile_curve_with_style	110
6.7.10	fill_area_style_tile_coloured_region	111
6.7.11	fill_area_style_tile_symbol_with_style	111
6.7.12	pre_defined_tile	111
6.7.13	externally_defined_tile	112
6.7.14	one_direction_repeat_factor	112
6.7.15	two_direction_repeat_factor	113

6.8	Presentation appearance schema entity definitions: presentation styles for surfaces	114
6.8.1	surface_style_usage	114
6.8.2	pre_defined_surface_side_style	114
6.8.3	surface_side_style	114
6.8.4	surface_style_fill_area	115
6.8.5	surface_style_boundary	115
6.8.6	curve_style_rendering	116
6.8.7	surface_rendering_properties	116
6.8.8	surface_style_silhouette	116
6.8.9	surface_style_segmentation_curve	117
6.8.10	surface_style_control_grid	117
6.8.11	surface_style_parameter_line	118
6.8.12	surface_style_rendering	118
6.8.13	surface_style_rendering_with_properties	118
6.8.14	surface_style_reflectance_ambient	119
6.8.15	surface_style_reflectance_ambient_diffuse	119
6.8.16	surface_style_reflectance_ambient_diffuse_specular	120
6.8.17	surface_style_transparent	120
6.9	Presentation appearance schema, entity definitions: presentation styles for text	121
6.9.1	text_style	121
6.9.2	character_glyph_style_stroke	121
6.9.3	character_glyph_style_outline	121
6.9.4	character_glyph_style_outline_with_characteristics	122
6.9.5	text_style_for_defined_font	122
6.9.6	text_style_with_justification	122
6.9.7	text_style_with_box_characteristics	123
6.9.8	text_style_with_spacing	123
6.9.9	pre_defined_character_spacing	124
6.9.10	text_style_with_mirror	124
6.10	Presentation appearance schema entity definitions: presentation styles for symbols	124
6.10.1	symbol_style	124
6.10.2	symbol_element_style	125
6.10.3	symbol_colour	126
6.11	Presentation appearance schema entity definitions: approximation tolerances	126
6.11.1	approximation_tolerance	126
6.11.2	approximation_tolerance_deviation	126
6.11.3	approximation_tolerance_parameter	127
6.12	Presentation appearance schema entity definitions: occlusion and visibility	128
6.12.1	occlusion_precedence	128
6.12.2	invisibility	128
6.12.3	context_dependent_invisibility	129
6.13	Presentation appearance schema function definitions	129
6.13.1	acyclic_occlusion_precedence	129

	<i>Page</i>
7 Presentation resource schema	131
7.1 Introduction	132
7.2 Presentation resource schema type definitions	132
7.2.1 staircase_or_linear	132
7.2.2 presentable_text	133
7.2.3 font_select	133
7.3 Presentation resource schema entity definitions	133
7.3.1 character_glyph_symbol	133
7.3.2 character_glyph_symbol_stroke	134
7.3.3 character_glyph_symbol_outline	135
7.3.4 character_glyph_font_usage	136
7.3.5 text_font	136
7.3.6 text_font_family	136
7.3.7 text_font_in_family	137
7.3.8 externally_defined_text_font	137
7.3.9 pre_defined_text_font	138
7.3.10 colour	138
7.3.11 colour_specification	138
7.3.12 colour_rgb	138
7.3.13 colour_associated	139
7.3.14 colour_association_table	140
7.3.15 state_variable_with_colour	140
7.3.16 pre_defined_colour	141
7.3.17 planar_extent	141
7.3.18 planar_box	141
7.3.19 presentation_scaled_placement	142

	<i>Page</i>
Annexes	
A Short names of entities	143
B Information object registration	150
B.1 Document identification	150
B.2 Schema identification	150
B.2.1 presentation_organisation_schema identification	150
B.2.2 presentation_definition_schema identification	150
B.2.3 presentation_appearance_schema identification	150
B.2.4 presentation_resource_schema identification	151
C Computer-interpretable listings	152
D Technical discussions	153
D.1 Symbols used in reflectance equations	153
D.2 Suggested reflectance equations	154
E EXPRESS-G diagrams	156
F Bibliography	199
Index	200
Figures	
1 Presentation hierarchy	7
2 Example of a presentation hierarchy	8
3 Mapping the presentation hierarchy to instances of entities	10
4 Association of presentation_view and presentation_area using mapped_item	11
5 Graphical transformation	23
6 Camera model d2	25
7 View volume, projection type CENTRAL	27
8 View volume, projection type PARALLEL	28
9 Light source directional	32
10 Light source positional	33
11 Light source spot	34
12 Examples of text delineation	44
13 Examples of text alignment	45
14 Filling of annotation fill areas	47
15 Examples of annotation symbols	51
16 Squared or rounded	84

	<i>Page</i>
17	Box slant and rotate angle 91
18	Chordal deviation and length 93
19	Curve style with extension 103
20	Curve style curve pattern 106
21	Fill area style hatching 109
22	One direction repeat factor 112
23	Two direction repeat factor 113
24	Text style with mirror 125
25	Character glyph symbols 135
E.1	presentation_organisation_schema — EXPRESS-G diagram 1 of 7 157
E.2	presentation_organisation_schema — EXPRESS-G diagram 2 of 7 158
E.3	presentation_organisation_schema — EXPRESS-G diagram 3 of 7 159
E.4	presentation_organisation_schema — EXPRESS-G diagram 4 of 7 160
E.5	presentation_organisation_schema — EXPRESS-G diagram 5 of 7 161
E.6	presentation_organisation_schema — EXPRESS-G diagram 6 of 7 162
E.7	presentation_organisation_schema — EXPRESS-G diagram 7 of 7 163
E.8	presentation_definition_schema — EXPRESS-G diagram 1 of 9 164
E.9	presentation_definition_schema — EXPRESS-G diagram 2 of 9 165
E.10	presentation_definition_schema — EXPRESS-G diagram 3 of 9 166
E.11	presentation_definition_schema — EXPRESS-G diagram 4 of 9 167
E.12	presentation_definition_schema — EXPRESS-G diagram 5 of 9 168
E.13	presentation_definition_schema — EXPRESS-G diagram 6 of 9 169
E.14	presentation_definition_schema — EXPRESS-G diagram 7 of 9 170
E.15	presentation_definition_schema — EXPRESS-G diagram 8 of 9 171
E.16	presentation_definition_schema — EXPRESS-G diagram 9 of 9 172
E.17	presentation_appearance_schema — EXPRESS-G diagram 1 of 21 173
E.18	presentation_appearance_schema — EXPRESS-G diagram 2 of 21 174
E.19	presentation_appearance_schema — EXPRESS-G diagram 3 of 21 175
E.20	presentation_appearance_schema — EXPRESS-G diagram 4 of 21 176
E.21	presentation_appearance_schema — EXPRESS-G diagram 5 of 21 177
E.22	presentation_appearance_schema — EXPRESS-G diagram 6 of 21 178
E.23	presentation_appearance_schema — EXPRESS-G diagram 7 of 21 179

	<i>Page</i>
E.24 presentation_appearance_schema — EXPRESS-G diagram 8 of 21	180
E.25 presentation_appearance_schema — EXPRESS-G diagram 9 of 21	181
E.26 presentation_appearance_schema — EXPRESS-G diagram 10 of 21	182
E.27 presentation_appearance_schema — EXPRESS-G diagram 11 of 21	183
E.28 presentation_appearance_schema — EXPRESS-G diagram 12 of 21	184
E.29 presentation_appearance_schema — EXPRESS-G diagram 13 of 21	185
E.30 presentation_appearance_schema — EXPRESS-G diagram 14 of 21	186
E.31 presentation_appearance_schema — EXPRESS-G diagram 15 of 21	187
E.32 presentation_appearance_schema — EXPRESS-G diagram 16 of 21	188
E.33 presentation_appearance_schema — EXPRESS-G diagram 17 of 21	189
E.34 presentation_appearance_schema — EXPRESS-G diagram 18 of 21	190
E.35 presentation_appearance_schema — EXPRESS-G diagram 19 of 21	191
E.36 presentation_appearance_schema — EXPRESS-G diagram 20 of 21	192
E.37 presentation_appearance_schema — EXPRESS-G diagram 21 of 21	193
E.38 presentation_resource_schema — EXPRESS-G diagram 1 of 5	194
E.39 presentation_resource_schema — EXPRESS-G diagram 2 of 5	195
E.40 presentation_resource_schema — EXPRESS-G diagram 3 of 5	196
E.41 presentation_resource_schema — EXPRESS-G diagram 4 of 5	197
E.42 presentation_resource_schema — EXPRESS-G diagram 5 of 5	198
Tables	
A.1 Short names of entities	143
D.1 PHIGS PLUS annex E : Variable definition and their sources	153

AUSTRALIAN STANDARD**Industrial automation systems and integration —
Product data representation and exchange —
Part 46 :
Integrated generic resources:
Visual presentation****1 scope**

This part of ISO 10303 specifies the integrated resources for the visualization of displayable product information. Presentation data as provided in this part are combined with product data and are exchanged together between systems with the aim that the receiving system can construct one or several pictures of the product information suitable for human perception.

This part specifies the generic resources required to describe the desired visual appearance of product information in its picture. The actual generation of the picture from the product information and its presentation data is left to the receiving system. The actual depiction may deviate from this target because of limitations in the capabilities of graphics systems.

Product information can be visualized in two ways, either by realistic, life-like images according to the rules of projective geometry and light propagation and reflection, or by symbolic presentations that conform with draughting standards and conventions. This part supports both types of presentations. The two types of visualization processes require different kinds of graphical transformations and these may be combined in the same picture.

The following are within the scope of this part of ISO 10303:

- Association between product data defined by other parts of ISO 10303 and presentation data;
- Support of graphics functionality in compliance with current ISO graphics standards;
- Definition of presentation style attributes for realistic and symbolic visualizations of geometric and non-geometric displayable elements in the product information;
- Control of approximation tolerances for geometric presentation elements;
- Methods for defining the appearance of characters and symbols in fonts;
- Support of externally defined character fonts and symbols;
- Image control by a layer mechanism;
- Nesting of presentation areas.

The following are outside the scope of this part of ISO 10303: