INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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

Part 105:
Integrated application resource: Kinematics

TECHNICAL CORRIGENDUM 2

Systèmes d'automatisation industrielle et intégration — Représentation et échange de données de produits —

Partie 105: Ressource d'application intégrée: Cinématique

RECTIFICATIF TECHNIQUE 21

Technical Corrigendum 2 to International Standard ISO 10303-105:1996 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC 4, *Industrial data*.

Introduction

This document corrects ISO 10303-105:1996, Product data representation and exchange - Part 105: Integrated application resource: Kinematics. The corrected document supersedes ISO 10303-105:1996 as amended by ISO 10303-105:1996/Cor. 1:2000.

The purpose of the modifications to the text of ISO 10303-105:1996 is to correct errors in the EXPRESS definitions likely to cause compilation problems, to replace the URL in the annex for the computer-interpretable EXPRESS, and to replace the object identifier for the document and the modified schema.

ICS 25.040.40

Ref. No. ISO 10303-105:1996/Cor.2:2000(E)

Modifications to the text of ISO 10303-105:1996

Clause 5, p. 6

The EXPRESS specification for the kinematic_structure_schema contained logical errors in the reference from the geometry_schema. Remove the following:

```
REFERENCE FROM geometry_schema
     (axis2_placement_3d,
      cartesian_transformation_operator_3d,
      curve,
      direction,
      geometric_representation_context,
      normalise,
      point,
      point_on_curve,
      point_on_surface,
      surface,
      rectangular_trimmed_surface,
      trimmed_curve);
```

Replace with the following:

```
REFERENCE FROM geometry_schema
     (axis2_placement_3d,
      cartesian_transformation_operator_3d,
      curve,
      direction,
      geometric_representation_context,
      geometric_representation_item,
      normalise,
      point,
      point_on_curve,
      point_on_surface,
      surface,
      rectangular_trimmed_surface,
      trimmed_curve);
```

Clause 5.4.6, p. 17

*The EXPRESS specification for mechanism_base_placement had an additional group qualifier for **WR3:** that is not allowed. Remove the EXPRESS specification and replace with the following:*

EXPRESS specification:

```
*)
ENTITY mechanism_base_placement
  SUBTYPE OF (representation_relationship_with_transformation);
  base_of_mechanism          : mechanism;
  SELF\representation_relationship_with_transformation.
    transformation_operator : cartesian_transformation_operator_3d;
DERIVE
  SELF\representation_relationship.rep_2
                   : kinematic_link_representation
                   := representation_of_link (base_of_mechanism.base);
UNIQUE
  UR1: base_of_mechanism;
WHERE
 WR1: ('KINEMATIC_STRUCTURE_SCHEMA.KINEMATIC_GROUND_REPRESENTATION' IN
```

```
                TYPEOF (SELF\representation_relationship.rep_1))
            OR
            ('KINEMATIC_STRUCTURE_SCHEMA.KINEMATIC_LINK_REPRESENTATION' IN
                TYPEOF (SELF\representation_relationship.rep_1));
    WR2: suitably_based_mechanism (SELF, base_of_mechanism);
    WR3: SELF\representation_relationship_with_transformation.
            transformation_operator IN
            SELF\representation_relationship.rep_1.items;
END_ENTITY;
(*
```

Clause 5.4.12, p. 21

The EXPRESS specification for the kinematic_link_representation had an additional group qualifier for the link_frame attribute that is not allowed. Remove the EXPRESS specification and replace with the following:

EXPRESS specification:

```
*)
ENTITY kinematic_link_representation
  SUBTYPE OF (representation);
  SELF\representation.context_of_items :
            geometric_representation_context;
DERIVE
  link_frame                       : geometric_representation_context
                                   := SELF\representation.context_of_items;
INVERSE
  link_representation_relation :
        kinematic_link_representation_relation FOR geometric_aspects;
WHERE
  WR1: SIZEOF (QUERY (item <* SELF\representation.items |
                NOT (('KINEMATIC_STRUCTURE_SCHEMA.RIGID_PLACEMENT' IN
                    TYPEOF (item))
                  OR
    ('GEOMETRY_SCHEMA.CARTESIAN_TRANSFORMATION_OPERATOR_3D' IN
                    TYPEOF (item))) )) = 0;
END_ENTITY;
(*
```

Clause 5.4.16, p. 24

*The EXPRESS specification for the kinematic_frame_background_representation_association had an additional group qualifier for **WR3:** that is not allowed. Remove the EXPRESS specification and replace with the following:*

EXPRESS specification:

```
*)
ENTITY kinematic_frame_background_representation_association
  SUBTYPE OF (representation_relationship_with_transformation);
  SELF\representation_relationship_with_transformation.
    transformation_operator : kinematic_frame_based_transformation;
WHERE
  WR1: 'KINEMATIC_STRUCTURE_SCHEMA.KINEMATIC_LINK_REPRESENTATION' IN
        TYPEOF (SELF\representation_relationship.rep_1);
  WR2:
'KINEMATIC_STRUCTURE_SCHEMA.KINEMATIC_FRAME_BACKGROUND_REPRESENTATION'
        IN TYPEOF (SELF\representation_relationship.rep_2);
  WR3: SELF\representation_relationship_with_transformation.
```

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