



INTERNATIONAL STANDARD ISO 13584-20:1998
TECHNICAL CORRIGENDUM 1

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**Industrial automation systems and integration — Parts
library —**

Part 20:

Logical resource: Logical model of expressions

TECHNICAL CORRIGENDUM 1

Systèmes d'automatisation industrielle et intégration — Bibliothèque de composants —

Partie 20: Ressource logique: Modèle logique d'expressions

RECTIFICATIF TECHNIQUE 1

Technical corrigendum 1 to International Standard ISO 13584-20:1998 was prepared by Technical Committee ISO/TC 184, *Automation systems and integration*, Subcommittee SC 4, *Industrial data*.

The purpose of the modifications to the text of ISO 13584-20:1998 is to integrate the various SEDS reports that have been collected since its publication.

Modifications to the text of ISO 13584-20:1998

Clause 6 Schema name, p8

The schema name shall be written using lowercase letters. Update the EXPRESS schema name as follows:

```
SCHEMA iso13584_generic_expressions_schema;
```

Additionally, all the references to the schema name (both in the text and in the EXPRESS code) is also updated.

Clause 6.3.1 Is_acyclic function, p13

A RETURN statement is not included between the final END_IF statement and the end of the function, resulting in possible invalid results. Consequently, the 'result' variable shall be initialized. Update the EXPRESS specification with the following:

```
FUNCTION acyclic (arg1: generic_expression;
                 arg2: SET OF generic_expression): BOOLEAN;

LOCAL
    result: BOOLEAN := TRUE;
END_LOCAL;

...
    REPEAT i := 1 TO
        SIZEOF
            (arg1\multiple_arity_generic_expression.operands);
        result := result AND
            acyclic(arg1\multiple_arity_generic_expression.operands[i],
                arg2+[arg1]);
    END_REPEAT;

    RETURN (result);
END_IF;

RETURN (result);

END_FUNCTION; -- acyclic
```

Clause 7 Schema name, p15

The schema name shall be written using lower case letters. Update the EXPRESS schema name as follows:

```
SCHEMA iso13584_expressions_schema;
```

Additionally, all the references to the schema name (both in the text and in the EXPRESS code) is also updated.

Clause 7.4.6 Odd_Function, WR1, p35

The EXPRESS declaration for **WR1** is not in compliance with the English description. Replace the WR1 specification with the following:

```
WR1: is_int_expr(operand);
```

Clause 7.4.13, Comparison_expression, WR1, p38

There is an error in the express for rule **WR1** of entity **comparison_expression**. Replace the rule with the following:

```
WR1: (('ISO13584_EXPRESSIONS_SCHEMA.NUMERIC_EXPRESSION'
      IN TYPEOF(SELF\binary_generic_expression.operands[1]))
     AND
      ('ISO13584_EXPRESSIONS_SCHEMA.NUMERIC_EXPRESSION'
      IN TYPEOF(SELF\binary_generic_expression.operands[2])))
OR
 (('ISO13584_EXPRESSIONS_SCHEMA.BOOLEAN_EXPRESSION'
  IN TYPEOF(SELF\binary_generic_expression.operands[1]))
  AND
   ('ISO13584_EXPRESSIONS_SCHEMA.BOOLEAN_EXPRESSION'
   IN TYPEOF(SELF\binary_generic_expression.operands[2])))
OR
 (('ISO13584_EXPRESSIONS_SCHEMA.STRING_EXPRESSION'
  IN TYPEOF(SELF\binary_generic_expression.operands[1]))
  AND
   ('ISO13584_EXPRESSIONS_SCHEMA.STRING_EXPRESSION'
   IN TYPEOF(SELF\binary_generic_expression.operands[2])))
;
```

Clause 7.4.21 Interval_expression, WR2, p41

The types of the expressions to be compared in the **interval_expression** shall evaluate to comparable expressions. But, when an **interval_expression** is specified based on numeric expressions, **WR2** restricts the type of the **interval_low** attribute to be a string expression, what is erroneous. Change the **WR2** specification with the following:

```
WR2: (('ISO13584_EXPRESSIONS_SCHEMA.STRING_EXPRESSION'
      IN TYPEOF (SELF.interval_low))
     AND ('ISO13584_EXPRESSIONS_SCHEMA.STRING_EXPRESSION'
          IN TYPEOF (SELF.interval_high))
     AND ('ISO13584_EXPRESSIONS_SCHEMA.STRING_EXPRESSION'
          IN TYPEOF (SELF.interval_item)))
OR
 (('ISO13584_EXPRESSIONS_SCHEMA.NUMERIC_EXPRESSION'
  IN TYPEOF(SELF.interval_low))
  AND ('ISO13584_EXPRESSIONS_SCHEMA.NUMERIC_EXPRESSION'
       IN TYPEOF(SELF.interval_item))
  AND ('ISO13584_EXPRESSIONS_SCHEMA.NUMERIC_EXPRESSION'
       IN TYPEOF(SELF.interval_high)));
```

Clause 7.6.1 Is_int_expr, p48

The local variable *i* is declared, but never used. It shall be removed from the EXPRESS specification.

Clause 7.6.2 Is_SQL_mappable, p50