

INTERNATIONAL
STANDARD

ISO/IEC
9506-2

First edition
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AMENDMENT 1
1993-07-01

**Industrial automation systems — Manufacturing
Message Specification —**

Part 2:
Protocol specification

AMENDMENT 1: Data exchange

*Systèmes d'automatisation industrielle — Spécification de messagerie
industrielle —*

Partie 2: Spécification du protocole

AMENDEMENT 1: Échange de données



Reference number
ISO/IEC 9506-2:1990/Amd.1:1993(E)

Foreword

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Amendment 1 to International Standard ISO/IEC 9506-2:1990 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems*, Subcommittee SC 5, *System integration and communication*.

ISO/IEC 9506 consists of the following parts, under the general title *Industrial automation systems — Manufacturing Message Specification* :

- *Part 1: Service definition*
- *Part 2: Protocol specification*

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Industrial automation systems — Manufacturing Message Specification —

Part 2:

Protocol specification

AMENDMENT 1: Data exchange

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Subclause 7.5.2

Change

"additionalService [78] AdditionalService-Request"

to

"additionalService [78] AdditionalService-Request,"

Insert the following after "- choice [79] is reserved":

| | | |
|----------------------------|------|--|
| "getDataExchangeAttributes | [80] | GetDataExchangeAttributes-Request, -- Shall not appear in minor version 1 |
| exchangeData | [81] | IMPLICIT ExchangeData-Request -- Shall not appear in minor version 1" |

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Subclause 7.5.2

Change

"getCapabilityList [71] IMPLICIT CS-GetCapabilityList-Request"

to

| | | |
|---------------------------|------|--|
| "getCapabilityList | [71] | IMPLICIT CS-GetCapabilityList-Request, |
| getDataExchangeAttributes | [80] | IMPLICIT CS-GetDataExchangeAttributes-Request, -- Shall not appear in minor version 1 |
| exchangeData | [81] | IMPLICIT CS-ExchangeData-Request -- Shall not appear in minor version 1" |

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Subclause 7.5.4

Change

"additionalService [78] AdditionalService-Response"

to

"additionalService [78] AdditionalService-Response,"

Insert the following after "-- choice [79] is reserved":

| | | |
|----------------------------|------|--|
| "getDataExchangeAttributes | [80] | IMPLICIT GetDataExchangeAttributes-Response, -- Shall not appear in minor version 1 |
| exchangeData | [81] | IMPLICIT ExchangeData-Response -- Shall not appear in minor version 1" |

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Subclause 7.5.4

Change

"getCapabilityList [71] IMPLICIT CS-GetCapabilityList-Response"

to

| | | |
|---------------------------|------|---|
| "getCapabilityList | [71] | IMPLICIT CS-GetCapabilityList-Response," |
| getDataExchangeAttributes | [80] | IMPLICIT CS-GetDataExchangeAttributes-Response, -- Shall not appear in minor version 1 |
| exchangeData | [81] | IMPLICIT CS-ExchangeData-Response -- Shall not appear in minor version 1" |

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Subclause 8.2

Change

"cancel (84)"

to

| | | |
|---------------------------|-------|---|
| "cancel | (84), | |
| getDataExchangeAttributes | (85), | -- Shall not appear in minor version 1 |
| exchangeData | (86), | -- Shall not appear in minor version 1" |

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Subclause 9.4

Change

"operatorStation (11)"

to

| | | |
|------------------|-------|---|
| "operatorStation | (11), | |
| "dataExchange | (12) | -- Shall not appear in minor version 1" |

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Subclause 9.6

Change

"operatorStation (11)"

to

"operatorStation (11),
dataExchange (12) -- Shall not appear in minor version 1"

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Subclause 17.3

Item a), change

"7 to 16 and"

to

"7 to 16, 20 and"

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Subclause 17.8

In the first sentence of the second paragraph, change

"clauses 6 to 16 and"

to

"clauses 6 to 16, 20 and"

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Subclause 17.11

Last line, change

"shall be one"

to

"shall be 2"

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Subclause 18.3

Table 2, add the following to the end:

| | |
|---------------------------|--|
| getDataExchangeAttributes | |
| exchangeData | |

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Clause 19

Add the following immediately before the last line:

"CS-GetDataExchangeAttributes-Request :: = NULL
 CS-GetDataExchangeAttributes-Response :: = NULL
 CS-ExchangeData-Request :: = NULL
 CS-ExchangeData-Response :: = NULL"

Add a new clause as follows:

20 Data Exchange Protocol

20.1 Introduction

This clause describes the protocol required for realization of the services which are defined in Clause 20 of ISO/IEC 9506-1. This includes:

GetDataExchangeAttributes
ExchangeData

20.2 ExchangeData

The abstract syntax of the exchangeData choice of the ConfirmedServiceRequest and ConfirmedServiceResponse types is specified below and described in the subclauses which follow. Subclause 5.5 describes the derivation of all parameters for which explicit derivations are not provided in this clause.

```
ExchangeData-Request ::= SEQUENCE {  
    dataExchangeName      [0] ObjectName,  
    listOfRequestData     [1] IMPLICIT SEQUENCE OF Data }  
  
ExchangeData-Response ::= SEQUENCE {  
    listOfResponseData    [0] IMPLICIT SEQUENCE OF Data }
```

20.2.1 ExchangeData-Request

The abstract syntax of the exchangeData choice of the ConfirmedServiceRequest type shall be the ExchangeData-Request.

20.2.2 ExchangeData-Response

The abstract syntax of the exchangeData choice of the ConfirmedServiceResponse type shall be the ExchangeData-Response.

20.3 GetDataExchangeAttributes

The abstract syntax of the getDataExchangeAttributes choice of the ConfirmedServiceRequest and ConfirmedServiceResponse types is specified below and described in the subclauses which follow. Subclause 5.5 describes the derivation of all parameters for which explicit derivations are not provided in this clause.

```
GetDataExchangeAttributes-Request ::= ObjectName -- Data Exchange Type Name  
  
GetDataExchangeAttributes-Response ::= SEQUENCE {  
    inUse                [0] IMPLICIT BOOLEAN,  
    listOfRequestTypeSpecifications [1] IMPLICIT SEQUENCE OF TypeSpecification,  
    listOfResponseTypeSpecifications [2] IMPLICIT SEQUENCE OF TypeSpecification,  
    programInvocation    [3] IMPLICIT Identifier OPTIONAL }
```

20.3.1 GetDataExchangeAttributes-Request

The abstract syntax of the getDataExchangeAttributes choice of the ConfirmedServiceRequest type shall be the GetDataExchangeAttributes-Request.

20.3.2 GetDataExchangeAttributes-Response

The abstract syntax of the getDataExchangeAttributes choice of the ConfirmedServiceResponse type shall be the GetDataExchangeAttributes-Response.

20.3.2.1 Program Invocation

The presence of the programInvocation element of the GetDataExchangeAttributes-Response shall indicate that the value of the Linked attribute of the Data Exchange Object is true. If present, the value of this parameter shall convey the name of the Program Invocation referenced by the Program Invocation Reference attribute of the Data Exchange Object.