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## Record Type CALCOP – Calc Operand Data (Continued)

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### Operand B2 Name

Required:	Conditional																		
Data Type and Size:	Character (8)																		
Columns:	58 - 65																		
Valid Values:	A B2 Block Name																		
Dependencies:	A B2 Name is only needed if the type is TA and the technological address for this calculation includes a B2 level.																		
Description:	Name of the B2 block for this operand.																		
Field for SDM entry:	<table><tr><td>Form:</td><td>Digital Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>B2-Name</td></tr><tr><td>Form:</td><td>Analog Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>B2-Name</td></tr><tr><td>Form:</td><td>Accumulator Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>B2-Name</td></tr></table>	Form:	Digital Form	Component:	Operands List	Field:	B2-Name	Form:	Analog Form	Component:	Operands List	Field:	B2-Name	Form:	Accumulator Form	Component:	Operands List	Field:	B2-Name
Form:	Digital Form																		
Component:	Operands List																		
Field:	B2-Name																		
Form:	Analog Form																		
Component:	Operands List																		
Field:	B2-Name																		
Form:	Accumulator Form																		
Component:	Operands List																		
Field:	B2-Name																		

### Operand B3 Name

Required:	Conditional																		
Data Type and Size:	Character (8)																		
Columns:	67 - 74																		
Valid Values:	A B3 Block Name																		
Dependencies:	The B3 Name is only required if the Type is TA and the technological address for this calculation includes a B3 level.																		
Description:	The name used to identify the B3-type record for this operand. The name might be a transformer name, a busbar name, a switching field name, etc.																		
Field for SDM entry:	<table><tr><td>Form:</td><td>Digital Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>B3-Name</td></tr><tr><td>Form:</td><td>Analog Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>B3-Name</td></tr><tr><td>Form:</td><td>Accumulator Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>B3-Name</td></tr></table>	Form:	Digital Form	Component:	Operands List	Field:	B3-Name	Form:	Analog Form	Component:	Operands List	Field:	B3-Name	Form:	Accumulator Form	Component:	Operands List	Field:	B3-Name
Form:	Digital Form																		
Component:	Operands List																		
Field:	B3-Name																		
Form:	Analog Form																		
Component:	Operands List																		
Field:	B3-Name																		
Form:	Accumulator Form																		
Component:	Operands List																		
Field:	B3-Name																		

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## Record Type CALCOP – Calc Operand Data (Continued)

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### Operand Element Name

Required:	Conditional																		
Data Type and Size:	Character (8)																		
Columns:	76 - 83																		
Valid Values:	An Element Name																		
Dependencies:	The Operand Element Name is only required if the Type is TA.																		
Description:	Name of the Element for this operand.																		
Field for SDM entry:	<table><tr><td>Form:</td><td>Digital Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>Element-Name</td></tr><tr><td>Form:</td><td>Analog Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>Element-Name</td></tr><tr><td>Form:</td><td>Accumulator Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>Element-Name</td></tr></table>	Form:	Digital Form	Component:	Operands List	Field:	Element-Name	Form:	Analog Form	Component:	Operands List	Field:	Element-Name	Form:	Accumulator Form	Component:	Operands List	Field:	Element-Name
Form:	Digital Form																		
Component:	Operands List																		
Field:	Element-Name																		
Form:	Analog Form																		
Component:	Operands List																		
Field:	Element-Name																		
Form:	Accumulator Form																		
Component:	Operands List																		
Field:	Element-Name																		

### Operand Info Name

Required:	Conditional																		
Data Type and Size:	Character (8)																		
Columns:	85 - 92																		
Valid Values:	An Info Name																		
Dependencies:	The Operand Info Name is only required if the Type is TA.																		
Description:	The Analog Name, Digital Name, or Accumulator Name for this operand.																		
Field for SDM entry:	<table><tr><td>Form:</td><td>Digital Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>Info-Name</td></tr><tr><td>Form:</td><td>Analog Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>Info-Name</td></tr><tr><td>Form:</td><td>Accumulator Form</td></tr><tr><td>Component:</td><td>Operands List</td></tr><tr><td>Field:</td><td>Info-Name</td></tr></table>	Form:	Digital Form	Component:	Operands List	Field:	Info-Name	Form:	Analog Form	Component:	Operands List	Field:	Info-Name	Form:	Accumulator Form	Component:	Operands List	Field:	Info-Name
Form:	Digital Form																		
Component:	Operands List																		
Field:	Info-Name																		
Form:	Analog Form																		
Component:	Operands List																		
Field:	Info-Name																		
Form:	Accumulator Form																		
Component:	Operands List																		
Field:	Info-Name																		

## Multisite Description Data

These records must follow a B1 and may follow a B2 or B3 level record.

All points within a B1 will inherit that B1's Multisite descriptions unless Multisite records are explicitly defined at the B2 and/or B3 level. Following this same inheritance scheme, a B3 will inherit its Multisite descriptions from its B2 parent, if that parent has its own, explicitly defined set of Multisite records.

Whenever a Multisite Description is defined, it must be complete. In other words, portions of a Multisite description at a block level cannot be defined while other portions are inherited from its parent.

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## Record Type MSDESC– Multisite Description Data

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### Control Center Name

Required:	Yes	
Data Type and Size:	Character (6)	
Columns:	9 - 14	
Valid Values:	Must be a valid Control Center name.	
Description:	Name of the Control Center. The Control Center entered here may be assigned certain multisite functions (see attributes listed below). These functions apply to the points within the block level that this record is defined under.	
Field for SDM entry:	Form:	Multisite Form
	Component:	Detail Block of the Multisite Form
	Field:	Control Center Name

---

## Record Type MSDESC– Multisite Description Data (Continued)

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### Master Priority

Required:	Conditional	
Data Type and Size:	Integer (1)	
Columns:	16	
Valid Values:	0 - Not a master 1 - 4	
Default Value:	0	
Dependencies:	At least one record, with a Master Priority of 1, must be defined for each set of Multisite records.	
Description:	The Master Priority of a control center -- where 1 is the highest priority and 4 is the lowest priority. A value of 0 means that this control center can never become a master while a non-zero value means that this control center is or has the potential of becoming master control center.  The designation of master control center means that it is responsible for the data. It has a direct (physical) connection to the RTDS. A control center having a priority of 1 is the normal master. If that control center is down, the control center with a priority of 2 becomes the master.	
Field for SDM entry:	Form: Component: Field:	Multisite Form Detail Block of the Multisite Form Master Priority

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## Record Type MSDESC– Multisite Description Data (Continued)

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### Control Permission

Required:	Conditional						
Data Type and Size:	Character (1)						
Columns:	18						
Valid Values:	P - Preferred Y - Yes N - No						
Default Value:	N						
Dependencies:	At least one record, with a Control Permission of P, must be defined for each set of Multisite records.						
Description:	A Control Permission is assigned to a control center. If the Control Permission has a value of N, the specified control center has no control permission. A Control Permission of P means that, although other control centers can have control, this one is the preferred one. A dispatcher who is controlling a point (i.e., manually updating) should be at the control center marked as preferred. It is, however, possible for a person to manually update a point from another control center, as long as that center has control permission.						
Field for SDM entry:	<table><tr><td>Form:</td><td>Multisite Form</td></tr><tr><td>Component:</td><td>Detail Block of the Multisite Form</td></tr><tr><td>Field:</td><td>Control Permission</td></tr></table>	Form:	Multisite Form	Component:	Detail Block of the Multisite Form	Field:	Control Permission
Form:	Multisite Form						
Component:	Detail Block of the Multisite Form						
Field:	Control Permission						

### Available

Required:	Conditional						
Data Type and Size:	Character (1)						
Columns:	20						
Valid Values:	Y - Yes N - No						
Default Value:	N						
Dependencies:	At least one record, with its availability set to Y, must be defined for each set of Multisite records.						
Description:	The availability of data for a control center. If this field is set to Y, the points at this block level are available to the specified control center (i.e., the control center will make a request for the data from the master.)						
Field for SDM entry:	<table><tr><td>Form:</td><td>Multisite Form</td></tr><tr><td>Component:</td><td>Detail Block of the Multisite Form</td></tr><tr><td>Field:</td><td>Availability</td></tr></table>	Form:	Multisite Form	Component:	Detail Block of the Multisite Form	Field:	Availability
Form:	Multisite Form						
Component:	Detail Block of the Multisite Form						
Field:	Availability						

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## Archive Filter Hierarchy

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### Record Type ARCHFIL

---

**Archiv Name**

Required:	yes
Data Type and Size:	character(8)
Columns:	9 - 16
Valid Values:	Archive name
Default Value:	
Dependencies:	
Description:	Archive name
Field for SDM entry:	Form: Archive Filter Form Component: Master Block Field: Archive Name

**Filter Name**

Required:	no
Data Type and Size:	character(16)
Columns:	18- 33
Valid Values:	name of the filter
Default Value:	
Dependencies:	
Description:	name of the filter
Field for SDM entry:	Form: Archive Filter Form Component: Filter Definition Block Field: Filter Name

---

## Record Type ARCHFIL

---

**B1 Name**

Required: no  
Data Type and Size: character(8)  
Columns: 35-42  
Valid Values: B1\_name from table ELEMENT  
Default Value:  
Dependencies:  
Description: name of B1 for typified filter  
Field for SDM entry: Form: Archive Filter Form  
Component: Filter Definition Block  
Direct TA Input  
Field: B1-Name

**B2 Name**

Required: No  
Data Type and Size: character(8)  
Columns: 44-51  
Valid Values: B2\_name from table ELEMENT  
Default Value:  
Dependencies:  
Description: name of B2 for typified filter  
Field for SDM entry: Form: Archive Filter Form  
Component: Filter Definition Block  
Direct TA Input  
Field: B2-Name

---

## Record Type ARCHFIL

---

### B3 Name

Required: No  
Data Type and Size: character(8)  
Columns: 53-60  
Valid Values: B3\_Name from table ELEMENT  
Default Value:  
Dependencies:  
Description: name of B3 for typified filter  
Field for SDM entry: Form: Archive Filter Form  
Component: Filter Definition Block  
Direct TA Input  
Field: B3-Name

### Element Name

Required: No  
Data Type and Size: character(8)  
Columns: 62-69  
Valid Values: Element\_name from table ELEMENT  
Dependencies:  
Description: name of Element for typified filter  
Field for SDM entry: Form: Archive Filter Form  
Component: Filter Definition Block  
Direct TA Input  
Field: Element-Name

---

## Record Type ARCHFIL

---

**Info name**

Required:	NO
Data Type and Size:	character(8)
Columns:	71-78
Valid Values:	name of the info
Default Value:	
Dependencies:	
Description:	Info Name for typified filter
Field for SDM entry:	Form: Archive Filter Form Component: Filter Definition Block Field: Info-Name

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## Record Type ARCHFIA

---

**block type for b1**

Required:	NO
Data Type and Size:	character(8)
Columns:	35-42
Valid Values:	block type for b1 from btypname
Default Value:	-
Dependencies:	
Description:	block type for typified filter of b1
Field for SDM entry:	Form: Archive Filter Form Component: Filter Definition Block Field: Typified TA Input Block-Type (B1)

---

## Record Type ARCHFIA

---

**block type for b2**

Required:	NO
Data Type and Size:	character(8)
Columns:	44-51
Valid Values:	block type for b2 from btypname
Default Value:	-
Dependencies:	
Description:	block type for typified filter of b2
Field for SDM entry:	Form: Archive Filter Form Component: Filter Definition Block Typified TA Input Field: Block-Type (B2)

**block type for b3**

Required:	NO
Data Type and Size:	character(8)
Columns:	53-60
Valid Values:	block type for b3 from btypname
Default Value:	-
Dependencies:	
Description:	block type for typified filter of b3
Field for SDM entry:	Form: Archive Filter Form Component: Filter Definition Block Typified TA Input Field: Block-Type (B3)

---

## Record Type ARCHFIA

---

### Element type name

Required:	NO
Data Type and Size:	character(8)
Columns:	62-69
Valid Values:	element type name from etypname
Default Value:	-
Dependencies:	
Description:	element type name for typified filter
Field for SDM entry:	Form: Archive Filter Form Component: Filter Definition Block Typified TA Input Field: Element-Type

### Info type name

Required:	NO
Data Type and Size:	character(8)
Columns:	71-78
Valid Values:	info type name from itypname
Default Value:	-
Dependencies:	
Description:	infotype name for typified filter
Field for SDM entry:	Form: Archive Filter Form Component: Filter Definition Block Typified TA Input Field: Info-Type

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## Record Type ARTADI

---

### Archiv Name

Required: yes  
Data Type and Size: character(8)  
Columns: 9 - 16  
Valid Values: Archive name  
Default Value:  
Dependencies:  
Description: Archive name  
Field for SDM entry: Form: Archive Filter Form  
Component: Master Block  
Field: Archive Name

### B1 Name

Required: Yes  
Data Type and Size: character(8)  
Columns: 18-25  
Valid Values: B1\_name from table ELEMENT  
Default Value:  
Dependencies:  
Description: name of B1  
Field for SDM entry: Form: Archive Filter Form  
Component: TA Table  
Field: B1-Name

---

## Record Type ARTADI

---

### B2 Name

Required: Yes  
Data Type and Size: character(8)  
Columns: 27-34  
Valid Values: B2\_ name from table ELEMENT  
Default Value:  
Dependencies:  
Description: name of B2  
Field for SDM entry: Form: Archive Filter Form  
Component: TA Table  
Field: B2-Name

### B3 Name

Required: Yes  
Data Type and Size: character(8)  
Columns: 36-43  
Valid Values: B3\_Name from table ELEMENT  
Default Value:  
Dependencies:  
Description: name of B3  
Field for SDM entry: Form: Archive Filter Form  
Component: TA Table  
Field: B3-Name

---

## Record Type ARTADI

---

### Element Name

Required:	Yes	
Data Type and Size:	character(8)	
Columns:	45-52	
Valid Values:	Element_name from table ELEMENT	
Dependencies:		
Description:	name of Element	
Field for SDM entry:	Form: Component: Field:	Archive Filter Form TA Table Element-Name

### Info name

Required:	Yes	
Data Type and Size:	character(8)	
Columns:	54-61	
Valid Values:	name of the info	
Default Value:		
Dependencies:		
Description:	Info Name	
Field for SDM entry:	Form: Component: Field:	Filter Definition Block TA Table Info-Name

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## Typification Hierarchy

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### Record Type ELNAME

---

**Element number**

Required: YES  
Data Type and Size: Number  
Columns: 9 - 14  
Valid Values: 0-3000  
Default Value: -  
Dependencies: may not be changed  
Description: Element number.

**Norm Element Type name**

Required: YES  
Data Type and Size: character(8)  
Columns: 16 - 23  
Valid Values: name from table netyname  
Default Value:  
Dependencies: may not be changed  
Description: Norm element type name  
Field for SDM entry:  
Form: Element Name Definition Form  
Component: Detail Block of the Element Name Definition Form  
Field: Norm Element

---

## Record Type ELNAME

---

### Element Type Name

Required:	YES
Data Type and Size:	character(8)
Columns:	25-32
Valid Values:	string, maximal length 8
Default Value:	-
Dependencies:	may not be changed
Description:	Element type name
Field for SDM entry:	Form: Element Name Definition Form Component: Detail Block of the Element Name Definition Form Field: Type Name

### Name of the element

Required:	YES
Data Type and Size:	character(8)
Columns:	34- 41
Valid Values:	string , maximal length 8
Default Value:	
Dependencies:	May not be changed in case of AD element. In another case it may be changed, but name must be unique
Description:	Element name
Field for SDM entry:	Form: Element Name Definition Form Component: Detail Block of the Element Name Definition Form Field: Element Name

### Binary element

Required:	YES
Data Type and Size:	character(8)
Columns:	43- 50
Valid Values:	name from elname
Default Value:	-
Dependencies:	May not be changed
Description:	Binary Element

---

## Record Type INTEXT

---

**Info name**

Required:	Yes	
Data Type and Size:	Number	
Columns:	9-14	
Valid Values:	name from table inname	
Default Value:	-	
Dependencies:		
Description:	Info name	
Field for SDM entry:	Form: Component: Field:	Info Text Definition Form Detail Block of the Info Text Definition Form Info Name

**Info text**

Required:	Yes	
Data Type and Size:	character(20)	
Columns:	23- 42	
Valid Values:	string , maximal lenght 20	
Default Value:	-	
Dependencies:		
Description:	Info text	
Field for SDM entry:	Form: Component: Field:	Info Text Definition Form Detail Block of the Info Text Definition Form Info Text

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## Record Type ELTYPDIG

---

### Element Type Name

Required:	YES
Data Type and Size:	character(8)
Columns:	9- 16
Valid Values:	string, maximal length 8
Default Value:	-
Dependencies:	
Description:	Element type name
Field for SDM entry:	Form: Digital Element Type Form Component: Master Block of the Digital Element Type Form Field: Element Type Name

### Element Type

Required:	YES for 1:1 Element Typ, in another case NO - will be generated
Data Type and Size:	Number
Columns:	18 - 23
Valid Values:	0-32767
Default Value:	
Dependencies:	
Description:	Element type. Element Type >10000 is 1:1 Element type
Field for SDM entry:	Form: Digital Element Type Form Component: Master Block of the Digital Element Type Form Field: Element Type Number

---

## Record Type ELTYPDIG

---

### Norm Element Type Name

Required:	YES
Data Type and Size:	character(8)
Columns:	25-32
Valid Values:	name from table netyname
Default Value:	-
Dependencies:	
Description:	Norm element type name
Field for SDM entry:	Form: Digital Element Type Form Component: Master Block of the Digital Element Type Form Field: Normelement Type

### Topological element

Required:	NO
Data Type and Size:	character(1)
Columns:	34-34
Valid Values:	Y/N
Default Value:	0
Dependencies:	
Description:	topological relevant

### Switch Type

Required:	NO
Data Type and Size:	Character(16)
Columns:	36-51
Valid Values:	noSwitch, Isolator, RemLoadBrSw, LoadBrSw, RemBraker, Breaker
Default Value:	noSwitch
Dependencies:	
Description:	switch type (for NCO)
Field for SDM entry:	Form: Digital Element Type Form Component: Detail Block of the Digital Element Type Form Field: Switch Type

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## Record Type ELTYPDIG

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### Switch to earth

Required: NO  
Data Type and Size: character(1)  
Columns: 53-53  
Valid Values: Y/N  
Default Value: N  
Dependencies:  
Description: switch to earth  
Field for SDM entry: Form: Digital Element Type Form  
Component: Detail Block of the Digital Element Type Form  
Field: Switch to Earth

### Component Type of operation devices

Required: NO  
Data Type and Size: Character(16)  
Columns: 55- 70  
Valid Values: noComponent, CpConnNode, CpGround, CpGeneral, CpBusbar,  
CpAuxiBusbar, CpCombiBusbar, CpGenerator, CpInjection, CpLoad,  
CpHauseSupply, CpCompensator, CpPetersenCoil, CpLine, CpTransformer,  
CpThreeWindings  
Default Value: noComponent  
Dependencies:  
Description: component type of operation devices  
Field for SDM entry: Form: Digital Element Type Form  
Component: Detail Block of the Digital Element Type Form  
Field: Component Type

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## Record Type ELTYPANA

---

### Element Type Name

Required: YES  
Data Type and Size: character(8)  
Columns: 9- 16  
Valid Values: string, maximal length 8  
Default Value: -  
Dependencies:  
Description: Element type name  
Field for SDM entry: Form: Analog Element Type Form  
Component: Master Block of the Analog Element Type Form  
Field: Element Type Name

### Element Type

Required: YES for 1:1 Element Typ, in another case NO - will be generated  
Data Type and Size: Number  
Columns: 18 - 23  
Valid Values: 0-32767  
Default Value:  
Dependencies:  
Description: Element type. Element Type >10000 is 1:1 Element type  
Field for SDM entry: Form: Analog Element Type Form  
Component: Master Block of the Analog Element Type Form  
Field: Element Type Number

---

## Record Type ELTYPANA

---

### Norm Element Type Name

Required:	YES
Data Type and Size:	character(8)
Columns:	25-32
Valid Values:	name from table netyname
Default Value:	-
Dependencies:	
Description:	Norm element type name
Field for SDM entry:	Form: Analog Element Type Form Component: Master Block of the Analog Element Type Form Field: Normelement Type

### Topological element

Required:	NO
Data Type and Size:	character(1)
Columns:	34-34
Valid Values:	Y/N
Default Value:	N
Dependencies:	
Description:	topological relevant

### Type of measured value MvSort

Required:	NO
Data Type and Size:	Character(16)
Columns:	36-51
Valid Values:	noMv, Voltage, Current, ActPower, ReactPower, Frequency, Temperature, CosPhi, Phi, VirtPower, Elevation, GatePos, TransfTap
Default Value:	noMv
Dependencies:	If Norm Element type is 2 -MeasVal this value should be <> noMV
Description:	type of analog value (if 'MeasVal')
Field for SDM entry:	Form: Analog Element Type Form Component: Detail Block of the Analog Element Type Form Field: Analog Type

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## Record Type ELTYPANA

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### Type of cshort circuit value ScSort

Required: NO  
Data Type and Size: Character(16)  
Columns: 53-60  
Valid Values: noSc, ScSk, Sclk, ScPhi, ScUrest  
Default Value: noCv  
Dependencies:  
Description: type of cshort circuit value  
Field for SDM entry: Form: Analog Element Type Form  
Component: Detail Block of the Analog Element Type Form  
Field: Short Circuit Type

### Calculation Value

Required: NO  
Data Type and Size: Number  
Columns: 62-62  
Valid Values: Y/N  
Default Value: N  
Dependencies:  
Description: element has also calculation values  
Field for SDM entry: Form: Analog Element Type Form  
Component: Detail Block of the Analog Element Type Form  
Field: Calculation Value

---

## Record Type ELTYPANA

---

### Short circuit calculation Value

Required: YES  
Data Type and Size: Number  
Columns: 64-64  
Valid Values: Y/N  
Default Value: N  
Dependencies:  
Description: element has also short circuit calcul.  
Field for SDM entry: Form: Analog Element Type Form  
Component: Detail Block of the Analog Element Type Form  
Field: Short Circuit Value

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## Record Type ELTYPACC

---

### Element Type Name

Required: YES  
Data Type and Size: character(8)  
Columns: 9- 16  
Valid Values: string, maximal length 8  
Default Value: -  
Dependencies:  
Description: Element type name  
Field for SDM entry: Form: Accumulator Element Type Form  
Component: Master Block of the Accumulator Element Type Form  
Field: Element Type Name

---

## Record Type ELTYPACC

---

### Element Type

Required: YES for 1:1 Element Typ, in another case NO - will be generated  
Data Type and Size: Number  
Columns: 18 - 23  
Valid Values: 0-32767  
Default Value:  
Dependencies:  
Description: Element type. Element Type >10000 is 1:1 Element type  
Field for SDM entry: Form: Accumulator Element Type Form  
Component: Master Block of the Accumulator Element Type Form  
Field: Element Type Number

### Norm Element Type Name

Required: YES  
Data Type and Size: character(8)  
Columns: 25-32  
Valid Values: name from table netyname  
Default Value: -  
Dependencies:  
Description: Norm element type name  
Field for SDM entry: Form: Accumulator Element Type Form  
Component: Master Block of the Accumulator Element Type Form  
Field: Normelement Type

---

## Record Type ELTYPACC

---

### Type of counter value CvSort

Required:	NO
Data Type and Size:	Character(16)
Columns:	34-49
Valid Values:	noCv, Counter, Counter, OpTimCount
Default Value:	noCv
Dependencies:	If Norm Element type is 3-CountVal this value should be <> noCV
Description:	type of accumulator (if 'CountVal')
Field for SDM entry:	Form: Accumulator Element Type Form Component: Detail Block of the Accumulator Element Type Form Field: Accumulator Type

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## Record Type ELTYPAD

---

### Element Type Name

Required:	YES
Data Type and Size:	character(8)
Columns:	9- 16
Valid Values:	string, maximal length 8
Default Value:	-
Dependencies:	
Description:	Element type name

---

## Record Type ELTYPAD

---

### Element Type

Required: YES for 1:1 Element Typ, in another case NO - will be generated  
Data Type and Size: Number  
Columns: 18 - 23  
Valid Values: 0-32767  
Default Value:  
Dependencies:  
Description: Element type. Element Type >10000 is 1:1 Element type

### Norm Element Type Name

Required: YES  
Data Type and Size: character(8)  
Columns: 25-32  
Valid Values: name from table netynname  
Default Value: -  
Dependencies:  
Description: Norm element type name

### Application Data Subtype

Required: YES  
Data Type and Size: Number  
Columns: 34 - 49  
Valid Values: 0-127  
Default Value: 0  
Dependencies:  
Description: subtype of application data. Relevant only for Application Data.

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## Record Type INFODEF

---

**Info Name**

Required:	Yes	
Data Type and Size:	character(8)	
Columns:	9-14	
Valid Values:	name from inname for this elementtype	
Default Value:		
Dependencies:		
Description:	info number	
Field for SDM entry:	Form: Component: Field:	Digital Element Type Form Detail Block of the Digital Element Type Form Info Name
Field for SDM entry:	Form: Component: Field:	Analog Element Type Form Detail Block of the Analog Element Type Form Info Name
Field for SDM entry:	Form: Component: Field:	Accumulator Element Type Form Detail Block of the Accumulator Element Type Form Info Name

---

## Record Type INFODEF

---

### Info Type name

Required:	YES
Data Type and Size:	character(8)
Columns:	16-23
Valid Values:	name from itypname
Default Value:	-
Dependencies:	
Description:	info type number
Field for SDM entry:	Form: Digital Element Type Form Component: Detail Block of the Digital Element Type Form Field: Info Type Name
Field for SDM entry:	Form: Analog Element Type Form Component: Detail Block of the Analog Element Type Form Field: Info Type
Field for SDM entry:	Form: Accumulator Element Type Form Component: Detail Block of the Accumulator Element Type Form Field: Info Type Name

### Measured Value InfoType name

Required:	YES
Data Type and Size:	character(16)
Columns:	25 - 40
Valid Values:	
Default Value:	
Dependencies:	This infotype must exist in table mvintyde
Description:	info type name for analog values. Relevant only for spontaneous analog values
Field for SDM entry:	Form: Analog Element Type Form Component: Detail Block of the Analog Element Type Form Field: Spontaneous

---

## Record Type INFODEF

---

### Indicator for cyclic or spontan processing (VaPar)

Required: YES  
Data Type and Size: Character(16)  
Columns: 42-57  
Valid Values: VaSpon, VaCycl, VaNone  
Default Value: VaNone  
Dependencies:  
Description: indic.: cyclic or spontaneous accumulator info

### VAType

Required: YES  
Data Type and Size: Number  
Columns: 59-64  
Valid Values: -32768 - 32767  
Default Value:  
Dependencies:  
Description: accumulator processing No.in vaVEASP  
Field for SDM entry: Form: Accumulator Element Type Form  
Component: Detail Block of the Accumulator Element Type Form  
Field: Spontaneous

---

---

## Record Type INTYLIST

---

### List identification

Required: Yes  
Data Type and Size: number  
Columns: 9-9  
Valid Values: 1-4  
Default Value:  
Dependencies:  
Description: number of list (first, second ..)

### Name of List

Required: Yes  
Data Type and Size: character(40)  
Columns: 11-50  
Valid Values: txt from relation lidihl of length 40 characters  
Default Value: -  
Dependencies:  
Description: list number  
Field for SDM entry: Form: Info Type Definition Form  
Component: Summary Block  
Field: Summary

---

## Record Type INTYLIST

---

### Appearing

Required:	No
Data Type and Size:	character(1)
Columns:	52-52
Valid Values:	Y,N
Default Value:	N
Dependencies:	
Description:	insert if appearing /fleeting
Field for SDM entry:	Form: Info Type Definition Form Component: Summary Block Field: Appearing

### Disappearing

Required:	No
Data Type and Size:	character(1)
Columns:	54-54
Valid Values:	Y,N
Default Value:	N
Dependencies:	
Description:	insert if disappearing
Field for SDM entry:	Form: Info Type Definition Form Component: Summary Block Field: Disappearing

---

## Record Type INTYLIST

---

### Message Format

Required:	No	
Data Type and Size:	number	
Columns:	56-59	
Valid Values:	0-127	
Default Value:	0	
Dependencies:		
Description:	number of module	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Summary Block Message Format

---

## Record Type INTYPRG

---

### program identification

Required:	Yes
Data Type and Size:	number
Columns:	9-9
Valid Values:	1-5
Default Value:	1
Dependencies:	
Description:	number of Program (first, second ..)

---

## Record Type INTYPRG

---

### Program name

Required:	Yes	
Data Type and Size:	character(8)	
Columns:	11-18	
Valid Values:	string(8) (MinObject - MaxObject)	
Default Value:	MinObject	
Dependencies:		
Description:	program name	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Base Processing Block User Programs

---

---

## Record Type INTYPRN

---

### Printer identification

Required:	Yes
Data Type and Size:	number
Columns:	9-9
Valid Values:	1-4
Default Value:	
Dependencies:	
Description:	number of printer (first, second ..)

---

## Record Type INTYPRN

---

**Printer name**

Required:	Yes
Data Type and Size:	character(4)
Columns:	11-14
Valid Values:	string(4)
Default Value:	-
Dependencies:	
Description:	Printer name
Field for SDM entry:	Form: Info Type Definition Form Component: Printer Block Field: Printer

**Appearing**

Required:	No
Data Type and Size:	character(1)
Columns:	16-16
Valid Values:	Y, N
Default Value:	N
Dependencies:	
Description:	insert if appearing /fleeting
Field for SDM entry:	Form: Info Type Definition Form Component: Printer Block Field: Appearing

---

## Record Type INTYPRN

---

### Disappearing

Required: No  
Data Type and Size: character(1)  
Columns: 18-18  
Valid Values: Y, N  
Default Value: N  
Dependencies:  
Description: insert if disappearing  
Field for SDM entry: Form: Info Type Definition Form  
Component: Printer Block  
Field: Disappearing

### MessageFormat

Required: No  
Data Type and Size: number  
Columns: 20-22  
Valid Values: 0-127  
Default Value: 0  
Dependencies:  
Description: number of module  
Field for SDM entry: Form: Info Type Definition Form  
Component: Printer Block  
Field: Message Format

---

---

## Record Type INTYSRV

---

### service identification

Required: Yes  
Data Type and Size: number  
Columns: 9-9  
Valid Values: 1-5  
Default Value: 1  
Dependencies:  
Description: number of Program (first, second ..)

### service name

Required: Yes  
Data Type and Size: character(8)  
Columns: 11-18  
Valid Values: string(8) (all - maxsvc)  
Default Value: all  
Dependencies:  
Description: service name  
Field for SDM entry: Form: Info Type Definition Form  
Component: Base Processing Block  
Field: User Services

---

---

## Record Type INTYDE

---

### Info Type Name

Required:	Yes	
Data Type and Size:	character(8)	
Columns:	9-16	
Valid Values:	string of lenght maximal 8 characters	
Default Value:		
Dependencies:		
Description:	info type name	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Master Block of the Info Type Definition Form Info Type Name

### InfoType

Required:	No	
Data Type and Size:	Number	
Columns:	18-22	
Valid Values:	0-32767	
Default Value:		
Dependencies:		
Description:	info type number	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Master Block of the Info Type Definition Form Info Type Number

---

## Record Type INTYDE

---

### Message Class Number

Required:	No
Data Type and Size:	Number
Columns:	24-27
Valid Values:	0 - 127
Default Value:	1
Dependencies:	
Description:	general message attribute message class
Field for SDM entry:	Form: Info Type Definition Form Component: Characteristics Block Field: Message Class

### Appear/disappear

Required:	No
Data Type and Size:	character(1)
Columns:	28-28
Valid Values:	Y,N
Default Value:	N
Dependencies:	
Description:	general message attribute appear/disappear
Field for SDM entry:	Form: Info Type Definition Form Component: Characteristics Block Field: Appearing/Disappearing

---

## Record Type INTYDE

---

### Value Name

Required: Yes  
Data Type and Size: Character(16)  
Columns: 30-45  
Valid Values: valnum and name (because must be unique) from VANAME  
Default Value:  
Dependencies: if ARCHIVE = N and numer of lists =0 and number of printers = 0 then Value Name must be 0  
Description: value name in vaname  
Field for SDM entry: Form: Info Type Definition Form  
Component: Characteristics Block  
Field: Value Offset Message

### Value Name Comand Index

Required: No  
Data Type and Size: Character(16)  
Columns: 47-62  
Valid Values: valnum and name (because must be unique) from VANAME  
Default Value: 1  
Dependencies:  
Description: value name command index in vaname  
Field for SDM entry: Form: Info Type Definition Form  
Component: Characteristics Block  
Field: Value Offset Command

---

## Record Type INTYDE

---

### Status type

Required:	Yes
Data Type and Size:	Character(16)
Columns:	64-71
Valid Values:	singles, doubles, fleet, tapset, DevStm, DigVal2, DigVal4, noSitype
Default Value:	
Dependencies:	
Description:	status type
Field for SDM entry:	Form: Info Type Definition Form Component: Characteristics Block Field: Status Type

---

## Record Type INTYDEA

---

### Supervision Time Min/Sec

Required:	No
Data Type and Size:	character(1)
Columns:	9-9
Valid Values:	Y, N
Default Value:	N
Dependencies:	
Description:	Supervision Time Min/Sec
Field for SDM entry:	Form: Info Type Definition Form Component: Base Processing Block Field: Supervision Time Min/Sec

---

## Record Type INTYDEA

---

### Supervision Time

Required: No  
Data Type and Size: Number  
Columns: 11-13  
Valid Values: 0 - 127  
Default Value: 0  
Dependencies:  
Description: remote control command reply timeout in sec/min  
Field for SDM entry: Form: Info Type Definition Form  
Component: Base Processing Block  
Field: Command Supervision Time

### Remote control command duration

Required: No  
Data Type and Size: Number  
Columns: 15-17  
Valid Values: 0 - 127  
Default Value: 0  
Dependencies:  
Description: remote control command duration  
Field for SDM entry: Form: Info Type Definition Form  
Component: Base Processing Block  
Field: Command Output Time

---

## Record Type INTYDEA

---

### Dist Typ Nr

Required:	No
Data Type and Size:	Number
Columns:	19-21
Valid Values:	0 - 127
Default Value:	0
Dependencies:	
Description:	status type
Field for SDM entry:	Form: Info Type Definition Form Component: Base Processing Block Field: Disturbance Type

### Real Time Intyde

Required:	No
Data Type and Size:	character(8)
Columns:	30-37
Valid Values:	name from intypname
Default Value:	NoType
Dependencies:	
Description:	reference to INTYDE for realtime
Field for SDM entry:	Form: Info Type Definition Form Component: Base Processing Block Field: Info Type for Realtime Alarm

---

## Record Type INTYDEA

---

### Inhibit info type

Required: No  
Data Type and Size: character(8)  
Columns: 39-46  
Valid Values: name from intypname  
Default Value: NoType  
Dependencies:  
Description: Inhibit info type  
Field for SDM entry: Form: Info Type Definition Form  
Component: Base Processing Block  
Field: Inhibit Info Type

### Rc Term Timeout

Required: No  
Data Type and Size: Number  
Columns: 48-52  
Valid Values: 0 - 32676  
Default Value: 0  
Dependencies:  
Description: time for termination from RTU in sec  
Field for SDM entry: Form: Info Type Definition Form  
Component: Base Processing Block  
Field: RTU Termination Time

---

## Record Type INTYDEA

---

### Status Monitoring Time

Required: No  
Data Type and Size: Number  
Columns: 54-58  
Valid Values: 0 - 32767  
Default Value: 0  
Dependencies:  
Description: status monitoring time in sec  
Field for SDM entry: Form: Info Type Definition Form  
Component: Base Processing Block  
Field: Status Monitoring Time

### Alarm Message Delay

Required: No  
Data Type and Size: Number  
Columns: 60-64  
Valid Values: 0 - 127  
Default Value: 0  
Dependencies:  
Description: alarm message delay

### Alarm Delay App

Required: No  
Data Type and Size: character(1)  
Columns: 66-66  
Valid Values: Y,N  
Default Value: N  
Dependencies:  
Description: delay message for app. event

---

## Record Type INTYDEA

---

### NCO relevance

Required:	No	
Data Type and Size:	character(1)	
Columns:	68-68	
Valid Values:	Y, N	
Default Value:	N	
Dependencies:		
Description:	NCO relevance	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Base Processing Block Relevant for Interlocking Check

### Topo relevance

Required:	No	
Data Type and Size:	character(1)	
Columns:	70-70	
Valid Values:	Y, N	
Default Value:	N	
Dependencies:		
Description:	topology relevance	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Base Processing Block Relevant for Topology

---

## Record Type INTYDEA

---

### Pc Job

Required:	No
Data Type and Size:	character(1)
Columns:	72-72
Valid Values:	Y,N
Default Value:	N
Dependencies:	
Description:	infostat relevant for Activate SC Job
Field for SDM entry:	Form: Info Type Definition Form Component: Base Processing Block Field: Relevant for Activate SC-Job

### Dynamic value in NIM

Required:	No
Data Type and Size:	character(1)
Columns:	74-74
Valid Values:	Y/N
Default Value:	N
Dependencies:	
Description:	value in NIM dynamic
Field for SDM entry:	Form: Info Type Definition Form Component: Base Processing Block Field: Info in NIM

---

---

## Record Type INTYDEB

---

### Archive

Required:	No	
Data Type and Size:	character(1)	
Columns:	9-9	
Valid Values:	Y, N	
Default Value:	N	
Dependencies:		
Description:	archive changes	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Archive Block Storage

### Archive Modus

Required:	No	
Data Type and Size:	Number	
Columns:	11-13	
Valid Values:	0 - 127	
Default Value:		
Dependencies:	if ARCHIVE = N Archive modus must be 0	
Description:	archive - text modus number	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Archive Block Message Format

---

## Record Type INTYDEB

---

### Indicator of Graphic

Required: No  
Data Type and Size: character(1)  
Columns: 15-15  
Valid Values: Y,N  
Default Value: Y  
Dependencies:  
Description: show changes in graphic  
Field for SDM entry: Form: Info Type Definition Form  
Component: Representation Block  
Field: Update worldmap

### Acknowl List App

Required: No  
Data Type and Size: character(1)  
Columns: 17-17  
Valid Values: Y,N  
Default Value: N  
Dependencies:  
Description: acknowledge in summary if appearing  
Field for SDM entry: Form: Info Type Definition Form  
Component: Representation Block  
Field: Acknowledge Summary Appearing

---

## Record Type INTYDEB

---

### Acknow List Disapp

Required: No  
Data Type and Size: character(1)  
Columns: 19-19  
Valid Values: Y,N  
Default Value: N  
Dependencies:  
Description: acknowledge in summary if disappearing  
Field for SDM entry: Form: Info Type Definition Form  
Component: Representation Block  
Field: Acknowledge Summary Disappearing

### Signal State

Required: No  
Data Type and Size: character(1)  
Columns: 21-21  
Valid Values: Y, N  
Default Value: N  
Dependencies: if INDIC\_GRAPHIC=N then SIGNALLING\_STATE must be N  
Description: Selection guidance for persistent event  
Field for SDM entry: Form: Info Type Definition Form  
Component: Representation Block  
Field: Selection Guidance persistent

---

## Record Type INTYDEB

---

### Signal Spon Change

Required:	No
Data Type and Size:	character(1)
Columns:	23-23
Valid Values:	Y,N
Default Value:	N
Dependencies:	if INDIC_GRAPHIC=N then SIGNALLING_SPON_CHANGE must be N
Description:	selection guidance for acknow. event
Field for SDM entry:	Form: Info Type Definition Form Component: Representation Block Field: Selection Guidance spontaneous

### Acknowledge from/to Grafic/ List

Required:	No
Data Type and Size:	character(1)
Columns:	25-25
Valid Values:	Y,N
Default Value:	Y
Dependencies:	if SIGNALLING_SPON_CHANGE =N or number of Lists =0 then ACK_GRAF_LI must be N
Description:	acknowledge from/to Grafic/List
Field for SDM entry:	Form: Info Type Definition Form Component: Representation Block Field: Acknowledge Graphic/Summary

---

## Record Type INTYDEB

---

### Acknowledge from/to List/Grafic

Required: No  
Data Type and Size: character(1)  
Columns: 27-27  
Valid Values: Y,N  
Default Value: N  
Dependencies: if SIGNALLING\_SPON\_CHANGE =N or number of Lists =0 then ACK\_LI\_GRAF must be N  
Description: acknowledge from/to List/Grafic  
Field for SDM entry: Form: Info Type Definition Form  
Component: Representation Block  
Field: Acknowledge Summary/Graphic

### Expert system Class Identification

Required: No  
Data Type and Size: Number  
Columns: 29-33  
Valid Values: 0 - 127  
Default Value: 0  
Dependencies: if ES\_SLOT\_ID = 0 ES\_CLAS\_ID must be 0  
Description: Identification of the class  
Field for SDM entry: Form: Info Type Definition Form  
Component: Expert System Block  
Field: Class

---

## Record Type INTYDEB

---

### Expert system Slot Identification

Required:	No
Data Type and Size:	Number
Columns:	35-39
Valid Values:	0 - 127
Default Value:	0
Dependencies:	if ES_CLAS_ID = 0 ES_SLOT_ID must be 0
Description:	Identification of the slot
Field for SDM entry:	Form: Info Type Definition Form Component: Expert System Block Field: Slot

### Alarm Delay Seco

Required:	No
Data Type and Size:	Number
Columns:	41-45
Valid Values:	0 - 32767
Default Value:	0
Dependencies:	
Description:	time for delayed alarm message in sec

### Remote control

Required:	No
Data Type and Size:	Number
Columns:	47-47
Valid Values:	Y/N
Default Value:	N
Dependencies:	
Description:	remote control
Field for SDM entry:	Form: Info Type Definition Form Component: Characteristics Block Field: Remote Message Processing

---

## Record Type INTYDEB

---

### Telesignalled

Required:	No	
Data Type and Size:	Number	
Columns:	49-49	
Valid Values:	Y/N	
Default Value:	N	
Dependencies:		
Description:	telesignalled	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Characteristics Block Telesignaled Message Processing

---

---

## Record Type INTYCOM

---

### Short comment

Required:	No	
Data Type and Size:	character	
Columns:	9-48	
Valid Values:	1-5	
Default Value:	1	
Dependencies:		
Description:	Short comment	
Field for SDM entry:	Form: Component: Field:	Info Type Definition Form Master Block of the Info Type Definition Form Comment

---

## Connectivity Hierarchy

### Connections

The connection records (CONN ... terminal record, CONNA ... node record) are used to describe connections between network equipment. Connections are always made "from" a terminal of one equipment "to" a connection node. For example, to define a connection between two switchbays, two CONN/CONNA record pairs are required: Switchbay A <-> Connection Node and Switchbay B <-> (same) Connection Node. The "from" and "to" designations are not meant to imply any sense of directionality.

The following classes of connections are permitted:

1. An element of a switchbay connected to another element of the same switchbay,
2. A switchbay connected to any other type of equipment and
3. Any type of equipment (except a switchbay) connected to a busbar.

Although "from" and "to" are arbitrary designations you cannot swap reference data entries around, i.e., switchbays can only be "from" and busbars can only be "to".

All network components must be connected by means of CONN and CONNA records. Switchbay terminals should be connected by means of CONN and CONNA records except that records to connect ground terminals of switchbays are not needed. Ground connections are created automatically. It is permissible for some kinds of switchbay terminals to remain unconnected. Any equipment which remains unconnected after all reference data is entered, or is found to be undefined, will be reported in error by a validation process.

 **Note:**

*There is an exception when defining busbars. Busbars consist of a network component with one terminal and a busbar-internal connection node. The busbar-internal connection node serves as the connection node for all connected switchbays and network components.*

*Before you can connect any switchbay or network component with a busbar you need to connect the busbar terminal with the busbar-internal connection node. This connection must be defined one time for each concerned busbar.*

*Be aware that you must use the same B1, B2 and B3 for the busbar terminal and for the busbar-internal connection node when you create the CONN and CONNA record for this connection.*

The order in which ALL references are described in the import data is maintained during import. Therefore, it is important that the user describes a complete set of connections in the import data (i.e., each terminal record must be followed by an accompanying node record).

Both automatic import and interactive editing allow for the insertion of new IDD records within an existing set of connections, however, during automatic import, all of the CONN and CONNA records (the new insertion as well as the original existing records) must be included so that the Import process can recognize the new order.

Below follows a description of the record types CONN and CONNA:

### Terminal Record

This record type specifies a single terminal of a certain equipment (switch or topological element of any type of network component). Each terminal record must be followed by an accompanying node record (CONNA). The element specified by the CONN record determines the maximum number of CONN/CONNA record pairs for the concerned element (one record pair for each valid terminal):

Equipment	Number of Terminals	Maximum number of CONN/CONNA record pairs
Switch	2	2
Transformer	4	4
Line	2	2
Any other network component	1	1

---

## Record Type CONN - Connection (Terminal Record)

---

**B1\_Name**

Required: Yes  
Data Type and Size: Character(8)  
Columns: 9-16  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: B1 Name of the terminal  
Field for SDM entry: Form: Connectivity Form  
Component: Terminals List  
Field: B1-Name

**B2\_Name**

Required: Yes  
Data Type and Size: Character(8)  
Columns: 18-25  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: B2 Name of the terminal  
Field for SDM entry: Form: Connectivity Form  
Component: Terminals List  
Field: B2-Name

---

## Record Type CONN - Connection (Terminal Record) (Continued)

---

### **B3\_Name**

Required: Yes  
Data Type and Size: Character(8)  
Columns: 27-34  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: B3 Name of the terminal  
Field for SDM entry: Form: Connectivity Form  
Component: Terminals List  
Field: B3-Name

### **Element\_Name**

Required: Yes  
Data Type and Size: Character(8)  
Columns: 36-43  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: Element Name of the terminal  
Field for SDM entry: Form: Connectivity Form  
Component: Terminals List  
Field: Element

---

## Record Type CONN - Connection (Terminal Record) (Continued)

---

### Terminal\_ID

Required:	Yes											
Data Type and Size:	Character(8)											
Columns:	45-52											
Valid Values:	Depend on the type of the element specified by the attribute Element_Name:  <table><thead><tr><th>Element type</th><th>Valid terminal IDs</th></tr></thead><tbody><tr><td>TopoCmp for a Transformer</td><td>HI VOLT LO VOLT STP1 STP2</td></tr><tr><td>TopoCmp for a Line</td><td>BEGIN END</td></tr><tr><td>TopoCmp for any other operational device</td><td>1</td></tr><tr><td>Any switch</td><td>1 2</td></tr></tbody></table>		Element type	Valid terminal IDs	TopoCmp for a Transformer	HI VOLT LO VOLT STP1 STP2	TopoCmp for a Line	BEGIN END	TopoCmp for any other operational device	1	Any switch	1 2
Element type	Valid terminal IDs											
TopoCmp for a Transformer	HI VOLT LO VOLT STP1 STP2											
TopoCmp for a Line	BEGIN END											
TopoCmp for any other operational device	1											
Any switch	1 2											
Default Value:												
Dependencies:	The value of the attribute Element_Name determines the valid values.											
Description:	Terminal ID of the respective terminal.											
Field for SDM entry:	Form:	Connectivity Form										
	Component:	Terminals List										
	Field:	Terminal										

## Node Record

This record type defines a connection node. It is applicable only if the preceding record specifies a terminal (record type CONN).

### Record Type CONNA - Connection (Node Record)

#### B1\_Node

Required:	Yes
Data Type and Size:	Character(8)
Columns:	9-16
Valid Values:	Must be a valid name.
Default Value:	
Dependencies:	
Description:	B1 Name of the connectivity node
Field for SDM entry:	Form: Connectivity Form Component: Nodes List Field: B1-Name

#### B2\_Node

Required:	Yes
Data Type and Size:	Character(8)
Columns:	18-25
Valid Values:	Must be a valid name.
Default Value:	
Dependencies:	
Description:	B2 Name of the connectivity node
Field for SDM entry:	Form: Connectivity Form Component: Nodes List Field: B2-Name

---

## Record Type CONNA - Connection (Node Record) (Continued)

---

### B3\_Node

Required: Yes  
Data Type and Size: Character(8)  
Columns: 27-34  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: B3 Name of the connectivity node  
Field for SDM entry: Form: Connectivity Form  
Component: Nodes List  
Field: B3-Name

### Element\_Node

Required: No  
Data Type and Size: Character(8)  
Columns: 36-43  
Valid Values: Must be a topological element  
Default Value:  
Dependencies:  
Description: Element Name of the connectivity node. A node name is generated when this field is not filled out.  
Field for SDM entry: Form: Connectivity Form  
Component: Nodes List  
Field: Element

---

## Network Group Hierarchy

The IDD definitions for network groups consists of the top-level records NWG (network Group) and NWG\_ISO (Network Group Isolation):

### Network Group Record

---

## Record Type Network Group - NWG

---

### group\_name

Required:	Yes
Data Type and Size:	Character(8)
Columns:	9-16
Valid Values:	
Default Value:	
Dependencies:	
Description:	Name of the network group
Field for SDM entry:	Form: Network Group Form Component: Network Group Block Field: Name

### group\_number

Required:	Yes
Data Type and Size:	Character(8)
Columns:	18-25
Valid Values:	
Default Value:	
Dependencies:	
Description:	Number of the network group

---

## Record Type Network Group - NWG (Continued)

---

**B1\_Name**

Required: Yes  
Data Type and Size: Character(8)  
Columns: 27-34  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: B1 Name of the terminal  
Field for SDM entry: Form: Network Group Form  
Component: Element Block  
Field: B1-Name

**B2\_Name**

Required: Yes  
Data Type and Size: Character(8)  
Columns: 36-43  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: B2 Name of the terminal  
Field for SDM entry: Form: Network Group Form  
Component: Element Block  
Field: B2-Name

---

## Record Type Network Group - NWG (Continued)

---

### **B3\_Name**

Required: Yes  
Data Type and Size: Character(8)  
Columns: 45-52  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: B3 Name of the terminal  
Field for SDM entry: Form: Network Group Form  
Component: Element Block  
Field: B3-Name

### **Element\_Name**

Required: Yes  
Data Type and Size: Character(8)  
Columns: 54-61  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: Element Name of the terminal  
Field for SDM entry: Form: Network Group Form  
Component: Element Block  
Field: Element

---

## Record Type Network Group - NWG (Continued)

---

### Priority

Required: Yes  
Data Type and Size: Number(3)  
Columns: 72-74  
Valid Values:  
Default Value:  
Dependencies:  
Description: Priority of the element  
Field for SDM entry: Form: Network Group Form  
Component: Network Group Block  
Field: Priority

---

## Network Group Isolation Record

---

## Record Type Network Group Isolation - NWG\_ISO

---

### Terminal\_ID

Required: Yes  
Data Type and Size: Character(8)  
Columns: 45-52  
Valid Values: Must be a valid name.  
Default Value:  
Dependencies:  
Description: Terminal ID of the terminal  
Field for SDM entry: Form: Network Group Form  
Component: Isolating Block  
Field: Terminal

---

## Application Data Info Record

The application data info record can be used to form the info part of the 5-level Technological Address. Unlike the analog, accumulator and digital records, each ADINFO record describes a single application data info, its available additional information, application data references and processing options.

An ADINFO record requires a parent ELEM record which defines an application data element.

## Record Type ADINFO - Application Data

### Application Data Info

Required:	Yes
Data Type and Size:	character(8)
Columns:	9 - 16
Valid Values:	An info name.
Dependencies:	The info name must be the name of an application data info and must have been defined in the source database table AD_INFO_DEF for the parent application data element.
Description:	The name of the respective application data info.

### Value

Required:	Yes
Data Type and Size:	character(40)
Columns:	18 - 57
Valid Values:	Real value in ASCII character format.
Description:	Application data main info value.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Application Data Info Worksheet Component: Application Data Info Tabular List Field: Value

---

## Record Type ADINFOA - Application Data

---

**Schedule name**

Required:	Yes
Data Type and Size:	character(32)
Columns:	9 - 42
Valid Values:	A schedule name.
Dependencies:	The attribute value must be one of the schedule names of the source database table SCHEDULE whose schedules have been assigned to the respective combination of application data element and application data info
Description:	Name of an associated schedule.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Application Data Info Worksheet Component: Application Data Info Tabular List Field: Schedule

---

---

An ADINFOB record can be used to define the name of an application data characteristic group associated with the application data info. It requires a parent ADINFO record which defines an application data info with an application data type configured as valIwChar.

---

## Record Type ADINFOB - Application Data

---

### Characteristic group name

Required:	Yes
Data Type and Size:	character(40)
Columns:	9 - 48
Valid Values:	The name of an application data characteristic group.
Dependencies:	The attribute value must be among the available names of application data characteristic groups in the source database table AD_CHARAC_GROUP.
	The application data type of the parent application data info must be valIwChar.
Description:	Name of an associated application data characteristic group.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Application Data Info Worksheet Component: Application Data Info Tabular List Field: Characteristic group

---

## Application Data Info Additional Information

An ADITIME record can be used to define a time stamp as an additional information of an application data info. It requires a parent ADINFO record which defines an application data info with an application data type configured as valRwTime or valIwTime.

### Record Type ADITIME - Application Data Additional Information

#### Time

Required:	Yes
Data Type and Size:	character(32)
Columns:	9 - 40
Valid Values:	Real or integer value (depending on ADType) in ASCII character format.  - Real value if ADType is valRvTime - Integer value if ADType is valIwTime
Dependencies:	The application data type of the parent application data info must be valRvTime or valIwTime.
Description:	A time information as an additional information.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Additional Information Windows Component: Time Window Field: Time

---

An ADITA record can be used to define a technological address as an additional information of an application data info. It requires a parent ADINFO record which defines an application data info with an application data type configured as valITA.

---

## Record Type ADITA - Application Data Additional Information

---

### TA

Required:	Yes								
Data Type and Size:	character(45)								
Columns:	9 - 53								
Valid Values:	A technological address in the following format: B1;B2;B3;ELEM;INFO; For example: "Vienna;220;Paris;CB;Status"								
Dependencies:	The application data type of the parent application data info must be valITA.								
Description:	Technological Address as an additional information.								
Field for SDM entry:	<table><tr><td>Form:</td><td>Application Data Info Form</td></tr><tr><td>Worksheet/Window:</td><td>Additional Information Windows</td></tr><tr><td>Component:</td><td>Technological Address Window</td></tr><tr><td>Fields:</td><td>B1-Name B2-Name B3-Name Elem-Name Info-Name</td></tr></table>	Form:	Application Data Info Form	Worksheet/Window:	Additional Information Windows	Component:	Technological Address Window	Fields:	B1-Name B2-Name B3-Name Elem-Name Info-Name
Form:	Application Data Info Form								
Worksheet/Window:	Additional Information Windows								
Component:	Technological Address Window								
Fields:	B1-Name B2-Name B3-Name Elem-Name Info-Name								

---

---

An ADIFIG record can be used to define the number of a figure group and the number of a text group as additional information of an application data info. It requires a preceding AD-INFO record which defines an application data info with an application data type configured as valIwFig.

---

## Record Type ADIFIG - Application Data Additional Information

---

### Figure Group

Required:	Yes
Data Type and Size:	character(32)
Columns:	9 - 40
Valid Values:	Integer value represented in ASCII character format.
Dependencies:	The application data type of the parent application data info must be valIwFig.
Description:	Figure group number as an additional information .
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Additional Information Windows Component: Figure Group/Text Group Window Field: Figure Group

### Text Group

Required:	Yes
Data Type and Size:	character(32)
Columns:	42 - 73
Valid Values:	Integer value represented in ASCII character format.
Dependencies:	The application data type of the parent application data info must be valIwFig.
Description:	Text group number as an additional information.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Additional Information Windows Component: Figure Group/Text Group Window Field: Text Group

---

An ADIFORM record can be used to define a time format and a processing time as an additional information of an application data info. It requires a preceding ADINFO record which defines an application data info with an application data type configured as valITime.

---

## Record Type ADIFORM - Application Data Additional Information

---

### Time Format

Required:	Yes								
Data Type and Size:	character(32)								
Columns:	9 - 40								
Valid Values:	Integer value in ASCII character format.								
Dependencies:	The application data type of the parent application data info must be valITime								
Description:	Number of the time format used for the representation of the time value. The time format number is stored as an additional information								
Field for SDM entry:	<table><tr><td>Form:</td><td>Application Data Info Form</td></tr><tr><td>Worksheet/Window:</td><td>Additional Information Windows</td></tr><tr><td>Component:</td><td>Time Format Window</td></tr><tr><td>Field:</td><td>Time Format</td></tr></table>	Form:	Application Data Info Form	Worksheet/Window:	Additional Information Windows	Component:	Time Format Window	Field:	Time Format
Form:	Application Data Info Form								
Worksheet/Window:	Additional Information Windows								
Component:	Time Format Window								
Field:	Time Format								

### Proc Time

Required:	Yes								
Data Type and Size:	character(32)								
Columns:	42 - 73								
Valid Values:	Integer value. Valid values are: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.								
Dependencies:	The application data type of the parent application data info must be valITime								
Description:	Time processing indicator as an additional information.								
Field for SDM entry:	<table><tr><td>Form:</td><td>Application Data Info Form</td></tr><tr><td>Worksheet/Window:</td><td>Additional Information Windows</td></tr><tr><td>Component:</td><td>Time Format Window</td></tr><tr><td>Field:</td><td>Time Value</td></tr></table>	Form:	Application Data Info Form	Worksheet/Window:	Additional Information Windows	Component:	Time Format Window	Field:	Time Value
Form:	Application Data Info Form								
Worksheet/Window:	Additional Information Windows								
Component:	Time Format Window								
Field:	Time Value								

---

An ADILIM record can be used to define upper and lower limit values as additional information of an application data info. It requires a preceding ADINFO record which defines an application data info with an application data type configured as valRwLim, valRwHLim, valIwLim or valIwHLim.

---

## Record Type ADILIM - Application Data Additional Information

---

### Minimum

Required:	Yes
Data Type and Size:	character(32)
Columns:	9 - 40
Valid Values:	Real or integer value (depending on ADType) in ASCII character format.  - Real value if ADType is valRwLim or valRwHLim - Integer value if ADType is valIwLim or valIwHLim
Dependencies:	The application data type of the parent application data info must be valRwLim, valRwHLim, valIwLim or valIwHLim.
Description:	Lower limit value as an additional information
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Additional Information Windows Component: Limits Window Field: Minimum

### Maximum

Required:	Yes
Data Type and Size:	character(32)
Columns:	42 - 73
Valid Values:	Real or integer value (depending on ADType) in ASCII character format.  - Real value if ADType is valRwLim or valRwHLim - Integer value if ADType is valIwLim or valIwHLim
Dependencies:	The application data type of the parent application data info must be valRwLim, valRwHLim, valIwLim or valIwHLim.
Description:	Upper limit value as an additional information.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Additional Information Windows Component: Limits Window Field: Maximum

---

An ADICCHAR record can be used to assign an application data characteristic group to an application data info. The application data characteristic group information specified by the ADICCHAR record are stored as additional information for the parent application data info.

An ADICCHAR record requires a preceding ADINFO record which defines an application data info with an application data type configured as valIwChar.

---

## Record Type ADICCHAR - Application Data Additional Information

---

### Characteristic group

Required:	Yes
Data Type and Size:	character(32)
Columns:	9 - 40
Valid Values:	Integer value in ASCII character format.
Dependencies:	The application data type of the parent application data info must be valIwChar.
Description:	Number of an assigned application data characteristic group as an additional information (database key for table AD_CHARAC_GROUP).

### Characteristic text group

Required:	Yes
Data Type and Size:	character(40)
Columns:	42 - 81
Valid Values:	Integer value in ASCII character format.
Dependencies:	The application data type of the parent application data info must be valIwChar.
Description:	Number of the title of the application data characteristic group (database key for table TXTGRDEF) specified by the attribute Characteristic group (description see above).

---

An ADCALC record can be used to assign a calculation formula to an application data info. An ADCALC record requires a preceding ADINFO record whose input mode has been configured as **IO** (calculated application data info).

---

## Record Type ADCALC - Application Data Additional Information

---

### Formula number

Required:	Yes								
Data Type and Size:	number(4)								
Columns:	9 - 12								
Valid Values:	The number of a formula.								
Dependencies:	If a formula is specified, one ADCAOP record is required for each operand in the formula.								
Description:	The attribute value must be a number of a formula that has already been defined via SDM. The formula must be available in the source database table FORMULA.								
Field for SDM entry:	<table><tr><td>Form:</td><td>Application Data Info Form</td></tr><tr><td>Worksheet/Window:</td><td>Calculation Worksheet</td></tr><tr><td>Component:</td><td>Result Block</td></tr><tr><td>Field:</td><td>Formula</td></tr></table>	Form:	Application Data Info Form	Worksheet/Window:	Calculation Worksheet	Component:	Result Block	Field:	Formula
Form:	Application Data Info Form								
Worksheet/Window:	Calculation Worksheet								
Component:	Result Block								
Field:	Formula								

### Calculation type

Required:	Yes
Data Type and Size:	number(1)
Columns:	14 - 14
Valid Values:	6 - Binary 1:1 combination 7 - Binary combination 8 - Value 1:1 combination 9 - Value combination
Description:	Calculation processing type. Specifies the type of the calculation (1:1 or other) and the data type of the result (value or binary).

## Application Data Calculation Operand Record

This record type is only applicable if the preceding info record specifies a formula (record type ADCALC). One ADCAOP record is required for every operand in the formula.

### Record Type ADCAOP – Application Data Calculation Operand Data

#### Operand Identifier

Required:	Yes
Data Type and Size:	character (1)
Columns:	9 - 9
Valid Values:	A - Z (uppercase letters), a - z (lowercase letters)
Description:	Name of an operand (variable) used in the concerned formula.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Calculation Worksheet Component: Operands Tabular List Field: Operand

#### Type

Required:	Yes
Data Type and Size:	character (3)
Columns:	11 - 13
Valid Values:	TA Value is taken from info specified by a technological address -TA Value is taken from info specified by a technological address and multiplied by -1. On For binary application data info: value is taken from info specified by a technological address Off For binary application data info: value is taken from info specified by a technological address and inverted CON Constant value
Description:	Type of the operand (variable or constant).
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Calculation Worksheet Component: Operands Tabular List Field: Type

---

## Record Type ADCAOP – Application Data Calculation Operand Data (Continued)

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### Constant

Required: Conditional  
Data Type and Size: float (10)  
Columns: 15 - 24  
Valid Values: -99999992 - 99999992  
Dependencies: The constant value is only required if the attribute Type is set to CON.  
Description: Constant value to be used in the calculation.  
Field for SDM entry:  
Form: Application Data Info Form  
Worksheet/Window: Calculation Worksheet  
Component: Operands Tabular List  
Field: Constant

### Operand B1 Name

Required: Conditional  
Data Type and Size: character (8)  
Columns: 26 - 33  
Valid Values: A B1 Block Name  
Dependencies: The operand B1 Name is only required if the attribute Type is set to TA.  
Description: Name of the B1 block of the technological address that specifies the info to be used in the calculation.  
Field for SDM entry:  
Form: Application Data Info Form  
Worksheet/Window: Calculation Worksheet  
Component: Operands Tabular List  
Field: B1-Name

---

## Record Type ADCAOP – Application Data Calculation Operand Data (Continued)

---

### Operand B2 Name

Required: Conditional  
Data Type and Size: character (8)  
Columns: 35 - 42  
Valid Values: A B2 Block Name  
Dependencies: A B2 Name is only needed if attribute Type is set to TA and the technological address for this calculation includes a B2 level.  
Description: Name of the B2 block of the technological address that specifies the info to be used in the calculation.  
Field for SDM entry: Form: Application Data Info Form  
Worksheet/Window: Calculation Worksheet  
Component: Operands Tabular List  
Field: B2-Name

### Operand B3 Name

Required: Conditional  
Data Type and Size: character (8)  
Columns: 44 - 51  
Valid Values: A B3 Block Name  
Dependencies: The B3 Name is only required if attribute Type is set to TA and the technological address for this calculation includes a B3 level.  
Description: Name of the B3 block of the technological address that specifies the info to be used in the calculation.  
Field for SDM entry: Form: Application Data Info Form  
Worksheet/Window: Calculation Worksheet  
Component: Operands Tabular List  
Field: B3-Name

---

## Record Type ADCAOP – Application Data Calculation Operand Data (Continued)

---

### Operand Element Name

Required: Conditional  
Data Type and Size: character (8)  
Columns: 53 - 60  
Valid Values: An Element Name  
Dependencies: The Operand Element Name is only required if attribute Type is set to TA.  
Description: Name of the element of the technological address that specifies the info to be used in the calculation.  
Field for SDM entry:  
Form: Application Data Info Form  
Worksheet/Window: Calculation Worksheet  
Component: Operands Tabular List  
Field: Element-Name

### Operand Info Name

Required: Conditional  
Data Type and Size: character (8)  
Columns: 62 - 69  
Valid Values: An Info Name  
Dependencies: The Info Name is only required if attribute Type is set to TA.  
Description: Name of the info to be used in the calculation.  
Field for SDM entry:  
Form: Application Data Info Form  
Worksheet/Window: Calculation Worksheet  
Component: Operands Tabular List  
Field: Info-Name

---

## Application Data Reference Record

This record type is only applicable if the preceding record defines an application data element (record type ELEM). One ADREF record is required for every application data reference of the respective application data info.

### Record Type ADREF - Application Data Reference

#### Reference Name

Required:	Yes
Data Type and Size:	character(8)
Columns:	9 - 16
Valid Values:	Name of a reference "terminal".
Dependencies:	The attribute value must be any of the references associated with the respective application data element. The reference must be available in the source database table AD_REFERENCE_DEF.
Description:	Name of a reference "terminal".

#### B1 Name To Site

Required:	Yes
Data Type and Size:	character(8)
Columns:	18 - 25
Valid Values:	A B1 block name.
Description:	Name of the referenced B1 block.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Application Data Reference Worksheet Component: Application Data Reference Tabular List Field: B1-Name

---

## Record Type ADREF - Application Data Reference (Continued)

---

### B2 Name To Site

Required:	Yes
Data Type and Size:	character(8)
Columns:	27 - 34
Valid Values:	A B2 block name.
Description:	Name of the referenced B2 block.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Application Data Reference Worksheet Component: Application Data Reference Tabular List Field: B2-Name

### B3 Name To Site

Required:	Yes
Data Type and Size:	character(8)
Columns:	36 - 43
Valid Values:	A B3 block name.
Description:	Name of the referenced B3 block.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Application Data Reference Worksheet Component: Application Data Reference Tabular List Field: B3-Name

---

## Record Type ADREF - Application Data Reference (Continued)

---

### Elem Name To Site

Required:	Yes
Data Type and Size:	character(8)
Columns:	45 - 52
Valid Values:	The name of an allowed element.
Dependencies:	The element name must be an allowed element for the respective reference "terminal" (element must be available as ADAllowed in table AD_REFERENCE_DEF).
Description:	Name of the referenced element.
Field for SDM entry:	Form: Application Data Info Form Worksheet/Window: Application Data Reference Worksheet Component: Application Data Reference Tabular List Field: Element-Name

---

## Decision Table Hierarchy

### General Decision Table Data

---

#### Record Type DT\_Head

---

**DtNr**

Required:	Yes
Data Type and Size:	number(4)
Columns:	9 -12
Valid Values:	depending on DtGroup and DtType (1,2,3-..)
Default Value:	0
Dependencies:	The number must be unique over all decision table types
Description:	decision table number
Field for SDM entry:	Form: Decision Table Definition Form Component: Field: DT-Nr

**DTGroup**

Required:	Yes
Data Type and Size:	character(12)
Columns:	31 - 42
Valid Values:	'interlocking' or 'combinations'
Default Value:	'-----'
Dependencies:	No
Description:	Group (supervisory control interlocking dt's or combination dt's)
Field for SDM entry:	Form: Decision Table Definition Form Component: Field: DT-Group

---

## Record Type DT\_Head (Continued)

---

**DTType**

Required: Yes  
Data Type and Size: character(16)  
Columns: 44-59  
Valid Values: 'funcspec-interl.', 'superior-interl.', local-interlock.', global-interlock' for DTGroup 'Interlocking'. For DTGroup 'combinations' there are 'circuit-comb.', 'elemspec-comb.' and 'individual-comb.' valid.  
Default Value: '-----'  
Dependencies: No  
Description: Kind of decision table  
Field for SDM entry: Form: Decision Table Definition Form  
Component:  
Field: DT-Type

**DTName**

Required: Yes  
Data Type and Size: character(16)  
Columns: 14-29  
Valid Values: 'FreeNameWith16Ch'  
Default Value: 'Dec.Table No.xxx'  
Dependencies: No  
Description: Name of decision table  
Field for SDM entry: Form: Decision Table Definition Form  
Component:  
Field: DT-Name