# Documentation

of

# TNoDave

generated by

JADD - Just Another DelphiDoc

10:42:14 on Mittwoch, 8. März 2006

I Ta	ble of Contents
II Fil	es
II.1	List of Files
II.2	Unit NoDaveComponent
II.2.1	Constants
II.2.1	.1 BAF
II.2.1	.2 BUS1F
II.2.1	.3 BUS2F
II.2.1	
II.2.1	
II.2.1	
II.2.1	<u> </u>
II.2.1	······································
II.2.1	······································
II.2.1	· · · · · · · · · · · · · · · · · · ·
II.2.1	<u> </u>
II.2.1	
II.2.1	
II.2.1	
II.2.1 II.2.1	
II.2.1	6
II.2.1	
II.2.1	
II.2.1	.28 daveDebugUpload
II.2.1	.29 daveDI
II.2.1	.30 daveFlags
II.2.1	.31 daveInputs
II.2.1	
II.2.1	.33 daveOutputs
II.2.1	
II.2.1	
II.2.1	
II.2.1	<del>-</del>
II.2.1	
II.2.1	
II.2.1	
II.2.1	.41 daveProtoMPI2

II.2.1.42	daveProtoMPI3	7
II.2.1.43	daveProtoMPI4	
II.2.1.44	daveProtoNLPro	
II.2.1.45	daveProtoPPI	
II.2.1.46	daveProtoS7Online	
II.2.1.47	daveSpeed1500k	
II.2.1.48	daveSpeed187k	
II.2.1.49	daveSpeed19k	
II.2.1.50	daveSpeed45k	
II.2.1.51	daveSpeed500k	
II.2.1.52	daveSpeed93k	
II.2.1.53	daveSpeed9k	
II.2.1.54	daveSysFlags	
II.2.1.55	daveSysInfo	
II.2.1.56	daveTimer	
II.2.1.57	daveV	
II.2.1.57	EXTF	
II.2.1.59	FRCE	
II.2.1.60	IFM1F	
II.2.1.61	IFM2F	
II.2.1.62	INTF	
II.2.1.63	MSTR	
II.2.1.64	NONE	
II.2.1.65	RACKO	
II.2.1.66	RACK1	
II.2.1.67	RACK2	
II.2.1.68	REDF	
II.2.1.69	RUN	
II.2.1.70	SF	
II.2.1.71	STOP	
II.2.1.72	USR	
II.2.1.73	USR1	
	inctions	
II.2.2.1	Register	
II.2.3 Sin	mple Types	
II.2.3.1	PSzlBGDiagInfo	
II.2.3.2	PSzlBGIdent	
II.2.3.3	PSzlBGState	
II.2.3.4	PSzlBlockType	
II.2.3.5	PSzlDiagMessage	
II.2.3.6	PSzlLedState	
II.2.3.7	PSzlStationState	
II.2.3.8	PSzlSystemMemory	
II.2.3.9	PSzlUserMemory	
II.2.3.10	TNoDave	
II.2.3.11	TNoDaveArea	
II.2.3.12	TNoDaveComSpeed	
II.2.3.13	TNoDaveConnectThread	
II 2 3 14	TNoDaveDehugOntion	12

II.2.3	3.15 TNoDaveDebugOptions	. 13
II.2.3	3.16 TNoDaveOnErrorEvent	. 13
II.2.3		
II.2.3	3.18 TNoDaveReachablePartnersMPI	. 13
II.2.3	3.19 TNoDaveReadThread	. 13
II.2.3	1	
II.2.3	E .	
II.2.3		
II.2.3		
II.2.3	71	
II.2.3		
II.2.3 II.2.3		
II.2.3		
II.2.3		
II.2.3		
11.2.3		. 17
III Re	ecords	15
III.1	List of Records	15
III.2	record TSzlBGDiagInfo	
III.3	record TSzlBGIdent	. 17
III.4	record TSzlBGState	. 18
III.5	record TSzlBlockType	19
III.6	record TSzlDiagMessage	20
III.7	record TSzlLedState	. 21
III.8	record TSzlStationState	22
III.9	record TSzlSystemMemory	. 23
III.10	record TSzlUserMemory	
IV Ob	ojects	25
IV.1	List of Objects	
	·	
V Cla	asses	26
V.1	List of Classes	. 26
V.2	class TNoDave	27
V.2.1	Properties	. 27
V.2.1	I.1 Active	. 27
V.2.1	1.2 Area	. 27
V.2.1	1.3 Buffer	. 27
V.2.1	1.4 BufLen	. 27
V.2.1		
V.2.1		
V.2.1	1	
V.2.1		
V.2.1		
V.2.1	1.10 CycleTime	. 28

V.2.1.11	DBNumber	. 28
V.2.1.12	DebugOptions	. 28
V.2.1.13	Interval	. 28
V.2.1.14	IntfName	. 29
V.2.1.15	IntfTimeout	. 29
V.2.1.16	IPAddress	29
V.2.1.17	IPPort	. 29
V.2.1.18	LastErrMsg	. 29
V.2.1.19	LastError	
V.2.1.20	MaxPDUData	
V.2.1.21	MPILocal	. 29
V.2.1.22	MPIRemote	
V.2.1.23	MPISpeed	
V.2.1.24	OnConnect	
V.2.1.25	OnDisconnect	
V.2.1.26	OnError	
V.2.1.27	OnRead	
V.2.1.28	OnWrite	
V.2.1.29	Protocol	
V.2.1.30	SZLCount	
V.2.1.31	SZLItem	
V.2.1.32	SZLItemSize	
V.2.2 M	lethods	. 31
V.2.2.1	AreaCode	. 31
V.2.2.2	BufferAt	. 31
V.2.2.2	Building	
V.2.2.3	Connect	. 32
V.2.2.3 V.2.2.4	Connect	. 32
V.2.2.3 V.2.2.4 V.2.2.5	Connect	. 32
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6	Connect	. 32 . 32 . 32
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7	Connect	. 32 . 32 . 32 . 32
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8	Connect	. 32 . 32 . 32 . 32 . 32
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect	. 32 . 32 . 32 . 32 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10	Connect            Create            Destroy            Disconnect            DoConnect            DoOnConnect            DoOnDisconnect            DoOnError	. 32 . 32 . 32 . 32 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11	Connect         Create	. 32 . 32 . 32 . 32 . 33 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnDisconnect DoOnError DoOnRead DoOnWrite	<ul><li>. 32</li><li>. 32</li><li>. 32</li><li>. 32</li><li>. 33</li><li>. 33</li><li>. 33</li><li>. 33</li></ul>
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnRead DoOnWrite DoReadBytes	<ul> <li>. 32</li> <li>. 32</li> <li>. 32</li> <li>. 32</li> <li>. 33</li> <li>. 33</li> <li>. 33</li> <li>. 33</li> <li>. 33</li> <li>. 33</li> </ul>
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug DoWriteBytes	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug DoWriteBytes DoWriteValue	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16 V.2.2.17	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug DoWriteBytes DoWriteValue GetBit	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16 V.2.2.17 V.2.2.18	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug DoWriteBytes DoWriteValue GetBit GetByte	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 34 . 34 . 35 . 35
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16 V.2.2.17 V.2.2.18 V.2.2.19	Connect . Create . Destroy . Disconnect . DoConnect . DoOnConnect . DoOnDisconnect . DoOnError . DoOnRead . DoOnWrite . DoReadBytes . DoSetDebug . DoWriteBytes . DoWriteValue . GetBit . GetByte . GetDInt .	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16 V.2.2.17 V.2.2.18 V.2.2.19 V.2.2.20	Connect . Create . Destroy . Disconnect . DoConnect . DoOnConnect . DoOnDisconnect . DoOnError . DoOnRead . DoOnWrite . DoReadBytes . DoSetDebug . DoWriteBytes . DoWriteValue . GetBit . GetByte . GetDInt . GetDWord .	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16 V.2.2.17 V.2.2.18 V.2.2.19 V.2.2.20 V.2.2.21	Connect Create Destroy Disconnect DoConnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug DoWriteBytes DoWriteValue GetBit GetByte GetDInt GetDWord GetErrorMsg	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 34 . 34 . 35 . 35 . 36 . 36
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16 V.2.2.17 V.2.2.18 V.2.2.19 V.2.2.20 V.2.2.21	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug DoWriteBytes DoWriteValue GetBit GetByte GetDInt GetDWord GetErrorMsg GetFloat	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 34 . 34 . 35 . 35 . 36 . 36
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16 V.2.2.17 V.2.2.18 V.2.2.19 V.2.2.20 V.2.2.21	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug DoWriteBytes DoWriteValue GetBit GetByte GetDInt GetDWord GetErrorMsg GetFloat GetInt	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 33
V.2.2.3 V.2.2.4 V.2.2.5 V.2.2.6 V.2.2.7 V.2.2.8 V.2.2.9 V.2.2.10 V.2.2.11 V.2.2.12 V.2.2.13 V.2.2.14 V.2.2.15 V.2.2.16 V.2.2.17 V.2.2.18 V.2.2.19 V.2.2.20 V.2.2.21	Connect Create Destroy Disconnect DoConnect DoOnConnect DoOnDisconnect DoOnError DoOnError DoOnRead DoOnWrite DoReadBytes DoSetDebug DoWriteBytes DoWriteValue GetBit GetByte GetDInt GetDWord GetErrorMsg GetFloat	. 32 . 32 . 32 . 32 . 33 . 33 . 33 . 33

V.2.2.	.27 Lock	3
V.2.2.	.28 ProtCode	3
V.2.2.		
V.2.2.	•	
V.2.2.		
V.2.2.		
V.2.2.	1	
V.2.2.	1	
V.2.2.		
V.2.2. V.2.2.		
V.2.2. V.2.2.		
V.2.2.	•	
V.2.2.	•	
V.2.2.	•	
V.2.2.		
V.2.2.	.43 WriteFloat	4
V.2.2.	.44 WriteInt	. 4
V.2.2.	.45 WriteWord	4
V.3	class TNoDaveConnectThread	40
V.3.1	Methods	
V.3.1.		
V.3.1. V.3.1.		
V.3.1. V.3.1.		
V.4	class TNoDaveReadThread	43
V.4.1	Methods	4.
V.4.1.	.1 Create	4
V.4.1.	.2 DoOnError	4
V.4.1.	.3 DoOnRead	4
V.4.1.	.4 Execute	4.
/I Int	erfaces	1/
VI.1	List of Interfaces	44
VII Dis	spatch-Interfaces	45
VII.1	List of Dispatch-Interfaces	
VIII Lis	ts/Appendix	
VIII.1	List of unfinished Identifiers	46
VIII.1.	1 List of unfinished files	4
VIII.2	List of long Functions	
VIII.3	Index of Identifiers and Files starting with "A"	
VIII.4	Index of Identifiers and Files starting with "B"	
VIII.5		
	$\omega$	

VIII.6	Index of Identifiers and Files starting with "D"	48
VIII.7	Index of Identifiers and Files starting with "E"	50
VIII.8	Index of Identifiers and Files starting with "F"	50
VIII.9	Index of Identifiers and Files starting with "G"	50
VIII.10	Index of Identifiers and Files starting with "H"	50
VIII.11	Index of Identifiers and Files starting with "I"	50
VIII.12	Index of Identifiers and Files starting with "J"	50
	Index of Identifiers and Files starting with "K"	
VIII.14	Index of Identifiers and Files starting with "L"	51
	Index of Identifiers and Files starting with "M"	
VIII.16	Index of Identifiers and Files starting with "N"	51
VIII.17	Index of Identifiers and Files starting with "O"	51
VIII.18	Index of Identifiers and Files starting with "P"	51
VIII.19	Index of Identifiers and Files starting with "Q"	52
VIII.20	Index of Identifiers and Files starting with "R"	52
VIII.21	Index of Identifiers and Files starting with "S"	52
VIII.22	Index of Identifiers and Files starting with "T"	52
	Index of Identifiers and Files starting with "U"	
VIII.24	Index of Identifiers and Files starting with "V"	53
VIII.25	Index of Identifiers and Files starting with "W"	53
VIII.26	Index of Identifiers and Files starting with "X"	53
VIII.27	Index of Identifiers and Files starting with "Y"	53
VIII.28	Index of Identifiers and Files starting with "Z"	53
VIII.29	Index of Identifiers and Files starting with "_"	53
VIII.30	Legend	54

II Files

# **II Files**

# **II.1 List of Files**

# **Independent Units**

No Dave Component

Figure-Source: UnitUse.fig WMF-File: UnitUse.wmf

# **II.2 Unit NoDaveComponent**

**Used Units:** 

**Used in interface:** 

System, SysInit, SysUtils, Classes, NoDave, SyncObjs, Windows

**Used in implementation:** 

None

### **Description:**

#### **TODO**

Before Installation:

Please copy the file \pascal\nodave.pas into the directory, where the file nodavecomponent.pas is located!

# Delphi-Installation:

- 1. Select Component Install in the Delphi-menu
- 2. Select Add... button
- 3. Select Browse
- 4. Select NoDaveComponent.pas
- 5. Select OK

#### Lazarus-Installation:

- 1. Select Components Open package file
- 2. Select nodavepackage.lpk
- 3. Select Open
- 4. Select Compile
- 5. Select Install
- 6. Select Yes

The Unit NoDaveComponent implements the class TNoDave, which encapsulates the access to the libnodave.dll.

With TNoDave and libnodave.dll it is very easy to read and write data from and to a S7 PLC.

Simatic, Simatic S5, Simatic S7, S7-200, S7-300, S7-400 are registered Trademarks of Siemens Aktiengesellschaft, Berlin und Muenchen.

#### Author:

Axel Kinting - Gebr. Schmid GmbH + Co.

## **II.2.1 Constants**

# **II.2.1.1 BAF**

\* BAF = TSzlLed(8)

### **II.2.1.2 BUS1F**

\* BUS1F = TSzlLed(11)

# II.2.1.3 BUS2F

\* BUS2F = TSzlLed(12)

### **II.2.1.4 CRST**

\* CRST = TSzlLed(7)

#### II.2.1.5 daveAnaIn

\* daveAnaIn = TNoDaveArea(2)

Analog input words of 200 family

#### Used in

TNoDave.AreaCode

# II.2.1.6 daveAnaOut

\* daveAnaOut = TNoDaveArea(3)

Analog output words of 200 family

#### Used in

TNo Dave. Area Code

# II.2.1.7 daveComSpeed115\_2k

\* daveComSpeed115\_2k = TNoDaveComSpeed(4)

#### Used in

TNoDave.DoConnect

# II.2.1.8 daveComSpeed19\_2k

\* daveComSpeed19\_2k = TNoDaveComSpeed( 1)

# Used in

TNoDave.DoConnect

# II.2.1.9 daveComSpeed38\_4k

\* daveComSpeed38\_4k = TNoDaveComSpeed(2)

#### Used in

TNoDave.Create, TNoDave.DoConnect

# II.2.1.10 daveComSpeed57\_6k

\* daveComSpeed57\_6k = TNoDaveComSpeed(3)

#### Used in

TNoDave.DoConnect

# II.2.1.11 daveComSpeed9\_6k

\* daveComSpeed9\_6k = TNoDaveComSpeed( 0)

#### Used in

TNoDave.DoConnect

### II.2.1.12 daveCounter

\* daveCounter = TNoDaveArea(11)

Counter

### Used in

TNoDave.AreaCode

#### **II.2.1.13** daveDB

\* daveDB = TNoDaveArea(7)

Data Blocks (global data)

#### Used in

TNoDave.AreaCode, TNoDave.Create

# II.2.1.14 daveDebugByte

\* daveDebugByte = TNoDaveDebugOption(7)

# II.2.1.15 daveDebugCompare

\* daveDebugCompare = TNoDaveDebugOption( 8)

# II.2.1.16 daveDebugConnect

\* daveDebugConnect = TNoDaveDebugOption(5)

# II.2.1.17 daveDebugExchange

\* daveDebugExchange = TNoDaveDebugOption(9)

# II.2.1.18 daveDebugInitAdapter

\* daveDebugInitAdapter = TNoDaveDebugOption(4)

# II.2.1.19 daveDebugListReachables

\* daveDebugListReachables = TNoDaveDebugOption(3)

# II.2.1.20 daveDebugMPI

\* daveDebugMPI = TNoDaveDebugOption(12)

# II.2.1.21 daveDebugPacket

\* daveDebugPacket = TNoDaveDebugOption(6)

# II.2.1.22 daveDebugPassive

\* daveDebugPassive = TNoDaveDebugOption(14)

# II.2.1.23 daveDebugPDU

\* daveDebugPDU = TNoDaveDebugOption(10)

# II.2.1.24 daveDebugPrintErrors

\* daveDebugPrintErrors = TNoDaveDebugOption(13)

# II.2.1.25 daveDebugRawRead

\* daveDebugRawRead = TNoDaveDebugOption(0)

# II.2.1.26 daveDebugRawWrite

\* daveDebugRawWrite = TNoDaveDebugOption(2)

# II.2.1.27 daveDebugSpecialChars

\* daveDebugSpecialChars = TNoDaveDebugOption(1)

# II.2.1.28 daveDebugUpload

\* daveDebugUpload = TNoDaveDebugOption(11)

# **II.2.1.29 daveDI**

\* daveDI = TNoDaveArea(8)

Data Blocks (instance data)?

#### Used in

TNoDave.AreaCode

# II.2.1.30 daveFlags

\* daveFlags = TNoDaveArea( 6)

Flags/Markers

#### Used in

TNoDave.AreaCode

# II.2.1.31 daveInputs

\* daveInputs = TNoDaveArea(4)

Input memory image

### Used in

TNoDave.AreaCode

#### II.2.1.32 daveLocal

\* daveLocal = TNoDaveArea(9)

Data Blocks (local data)?

#### Used in

TNoDave.AreaCode

# II.2.1.33 daveOutputs

\* daveOutputs = TNoDaveArea( 5)

Output memory image

#### Used in

TNoDave.AreaCode

# II.2.1.34 daveP

\* daveP = TNoDaveArea(13)

Peripherie Input/Output

#### Used in

TNoDave.AreaCode

### II.2.1.35 daveProtoAS511

\* daveProtoAS511 = TNoDaveProtocol(10)

S5 via programmer-port

#### Used in

TNoDave.DoConnect, TNoDave.ProtCode

# II.2.1.36 daveProtoIBH

\* daveProtoIBH = TNoDaveProtocol(7)

IBH-Link TCP/MPI-Adapter

Used in

TNoDave.DoConnect, TNoDave.ProtCode, TNoDave.ResetInterface

### II.2.1.37 daveProtoIBH\_PPI

\* daveProtoIBH\_PPI = TNoDaveProtocol(8)

IBH-Link TCP/MPI-Adapter with PPI-Protocol

#### Used in

TNoDave.DoConnect, TNoDave.ProtCode, TNoDave.ResetInterface

#### II.2.1.38 daveProtoISOTCP

\* daveProtoISOTCP = TNoDaveProtocol(5)

ISO over TCP

#### Used in

TNoDave.DoConnect, TNoDave.ProtCode

#### II.2.1.39 daveProtoISOTCP243

\* daveProtoISOTCP243 = TNoDaveProtocol(6)

ISO over TCP (for CP243)

#### Used in

TNoDave.DoConnect, TNoDave.ProtCode

#### II.2.1.40 daveProtoMPI

\* daveProtoMPI = TNoDaveProtocol( 0)

MPI-Protocol

#### Used in

TNoDave.Create, TNoDave.DoConnect, TNoDave.ProtCode

## II.2.1.41 daveProtoMPI2

\* daveProtoMPI2 = TNoDaveProtocol(1)

MPI-Protocol (Andrew's version without STX)

#### Used in

TNoDave.DoConnect, TNoDave.ProtCode

#### II.2.1.42 daveProtoMPI3

\* daveProtoMPI3 = TNoDaveProtocol(2)

MPI-Protocol (Step 7 Version version)

# Used in

TNoDave.DoConnect, TNoDave.ProtCode

#### II.2.1.43 daveProtoMPI4

\* daveProtoMPI4 = TNoDaveProtocol(3)

MPI-Protocol (Andrew's version with STX)

#### Used in

TNoDave.DoConnect, TNoDave.ProtCode

### II.2.1.44 daveProtoNLPro

\* daveProtoNLPro = TNoDaveProtocol(11)

Deltalogic NetLink-PRO TCP/MPI-Adapter

#### Used in

TNoDave.DoConnect, TNoDave.ProtCode

#### II.2.1.45 daveProtoPPI

\* daveProtoPPI = TNoDaveProtocol(4)

PPI-Protocol

#### Used in

TNoDave.DoConnect, TNoDave.ProtCode

### II.2.1.46 daveProtoS7Online

\* daveProtoS7Online = TNoDaveProtocol(9)

use S7Onlinx.dll for transport via Siemens CP

#### Used in

TNoDave.Disconnect, TNoDave.DoConnect, TNoDave.ProtCode

### **II.2.1.47 daveSpeed1500k**

\* daveSpeed1500k = TNoDaveSpeed(4)

## II.2.1.48 daveSpeed187k

\* daveSpeed187k = TNoDaveSpeed(2)

#### Used in

TNoDave.Create

# II.2.1.49 daveSpeed19k

\* daveSpeed19k = TNoDaveSpeed(1)

# II.2.1.50 daveSpeed45k

\* daveSpeed45k = TNoDaveSpeed(5)

# II.2.1.51 daveSpeed500k

\* daveSpeed500k = TNoDaveSpeed(3)

# II.2.1.52 daveSpeed93k

\* daveSpeed93k = TNoDaveSpeed(6)

# II.2.1.53 daveSpeed9k

\* daveSpeed9k = TNoDaveSpeed(0)

# II.2.1.54 daveSysFlags

\* daveSysFlags = TNoDaveArea( 1)

System flag area of 200 family

#### Used in

TNoDave.AreaCode

# II.2.1.55 daveSysInfo

\* daveSysInfo = TNoDaveArea( 0)

System information of 200 family

#### Used in

TNoDave.AreaCode

#### II.2.1.56 daveTimer

\* daveTimer = TNoDaveArea( 12)

Timer

#### Used in

TNoDave.AreaCode

### II.2.1.57 daveV

\* daveV = TNoDaveArea( 10)

unknown Area

### Used in

TNo Dave. Area Code

# **II.2.1.58 EXTF**

\* EXTF = TSzlLed(3)

### **II.2.1.59 FRCE**

\* FRCE = TSzlLed(6)

### II.2.1.60 IFM1F

\* IFM1F = TSzlLed(18)

### II.2.1.61 IFM2F

\* IFM2F = TSzlLed(19)

### **II.2.1.62 INTF**

\* INTF = TSzlLed(2)

### **II.2.1.63 MSTR**

\* MSTR = TSzlLed(14)

### **II.2.1.64 NONE**

\* NONE = TSzlLed(0)

# II.2.1.65 RACK0

\* RACK0 = TSzlLed(15)

# II.2.1.66 RACK1

\* RACK1 = TSzlLed(16)

### II.2.1.67 RACK2

\* RACK2 = TSzlLed(17)

# **II.2.1.68 REDF**

\* REDF = TSzlLed(13)

### **II.2.1.69 RUN**

\* RUN = TSzlLed(4)

### II.2.1.70 SF

\* SF = TSzlLed(1)

### **II.2.1.71 STOP**

\* STOP = TSzlLed(5)

## **II.2.1.72 USR**

\* USR = TSzlLed(9)

# II.2.1.73 USR1

\* USR1 = TSzlLed(10)

# **II.2.2 Functions**

# II.2.2.1 Register

\* procedure Register

Installation of TNoDave in the component palette

# **II.2.3 Simple Types**

# II.2.3.1 PSzlBGDiagInfo

\* PSzlBGDiagInfo = ^TSzlBGDiagInfo

# II.2.3.2 PSzlBGIdent

\* PSzlBGIdent = ^TSzlBGIdent

## II.2.3.3 PSzlBGState

\* PSzlBGState = ^TSzlBGState

# II.2.3.4 PSzlBlockType

\* PSzlBlockType = TSzlBlockType

## II.2.3.5 PSzlDiagMessage

\* PSzlDiagMessage = ^TSzlDiagMessage

#### II.2.3.6 PSzlLedState

\* PSzlLedState = ^TSzlLedState

#### II.2.3.7 PSzlStationState

\* PSzlStationState = ^TSzlStationState

## II.2.3.8 PSzlSystemMemory

\* PSzlSystemMemory = ^TSzlSystemMemory

## II.2.3.9 PSzlUserMemory

\* PSzlUserMemory = ^TSzlUserMemory

#### II.2.3.10 TNoDave

See in the part of Classes on TNoDave.

# II.2.3.11 TNoDaveArea

\* TNoDaveArea = ( daveSysInfo, daveSysFlags, daveAnaIn, daveAnaOut, daveInputs, daveOutputs, daveFlags, daveDB, daveDI, daveLocal, daveV, daveCounter, daveTimer, daveP)

The area of the PLC-Data for the TNoDave-Component.

### II.2.3.12 TNoDaveComSpeed

\* TNoDaveComSpeed = ( daveComSpeed9\_6k, daveComSpeed19\_2k, daveComSpeed38\_4k, daveComSpeed57\_6k, daveComSpeed115\_2k)

The speed of the COM-Port for the TNoDave-Component.

### II.2.3.13 TNoDaveConnectThread

See in the part of Classes on TNoDaveConnectThread.

### II.2.3.14 TNoDaveDebugOption

\* TNoDaveDebugOption = ( daveDebugRawRead, daveDebugSpecialChars, daveDebugRawWrite, daveDebugListReachables, daveDebugInitAdapter, daveDebugConnect, daveDebugPacket, daveDebugByte, daveDebugCompare, daveDebugExchange, daveDebugPDU, daveDebugUpload, daveDebugMPI, daveDebugPrintErrors, daveDebugPassive)

The debug-options for the libnodave.dll

## II.2.3.15 TNoDaveDebugOptions

\* TNoDaveDebugOptions = **set of** TNoDaveDebugOption

#### II.2.3.16 TNoDaveOnErrorEvent

\* TNoDaveOnErrorEvent = **procedure** (Sender: TComponent; ErrorMsg: String) **of object** 

This is the type of the Event-Handler for the OnError-Event of the TNoDave component.

#### **Parameters**

Sender

The TNoDave-instance which is the source of the event.

**ErrorMsg** 

A clear text message describing the error.

#### II.2.3.17 TNoDaveProtocol

\* TNoDaveProtocol = ( daveProtoMPI, daveProtoMPI2, daveProtoMPI3, daveProtoMPI4, daveProtoPPI, daveProtoISOTCP, daveProtoISOTCP243, daveProtoIBH, daveProtoIBH\_PPI, daveProtoS7Online, daveProtoAS511, daveProtoNLPro)

The type of the communication-protocol for the TNoDave-Component.

#### II.2.3.18 TNoDaveReachablePartnersMPI

\* TNoDaveReachablePartnersMPI = array [ 0 .. 126] of Boolean

List of reachable Partners in the MPI-Network, True = Station is available at this address.

#### II.2.3.19 TNoDaveReadThread

See in the part of Classes on TNoDaveReadThread.

## II.2.3.20 TNoDaveSpeed

\* TNoDaveSpeed = ( daveSpeed9k, daveSpeed19k, daveSpeed187k, daveSpeed500k, daveSpeed1500k, daveSpeed93k)

The speed of the MPI-protocol for the TNoDave-Component.

#### II.2.3.21 TSzlBGDiagInfo

See in the part of Records on TSzlBGDiagInfo.

# II.2.3.22 TSzlBGIdent

See in the part of Records on TSzlBGIdent.

### II.2.3.23 TSzlBGState

See in the part of Records on TSzlBGState.

# II.2.3.24 TSzlBlockType

See in the part of Records on TSzlBlockType.

## II.2.3.25 TSzlDiagMessage

See in the part of Records on TSzlDiagMessage.

#### II.2.3.26 TSzlLed

\* TSzlLed = ( NONE, SF, INTF, EXTF, RUN, STOP, FRCE, CRST, BAF, USR, USR1, BUS1F, BUS2F, REDF, MSTR, RACK0, RACK1, RACK2, IFM1F, IFM2F)

# II.2.3.27 TSzlLedState

See in the part of Records on TSzlLedState.

# II.2.3.28 TSzlStationState

See in the part of Records on TSzlStationState.

# II.2.3.29 TSzlSystemMemory

See in the part of Records on TSzlSystemMemory.

# II.2.3.30 TSzlUserMemory

See in the part of Records on TSzlUserMemory.

# **III Records**

# **III.1 List of Records**

All Records

TSzlBGDiagInfo

TSzlBGIdent

TSzlBGState

TSzlBlockType

TSzlDiagMessage

TSzlLedState

**TSzlStationState** 

TSzlSystemMemory

TSzlUserMemory

Figure-Source: RecordList.fig WMF-File: RecordList.wmf

# III.2 record TSzlBGDiagInfo

# III.2 record TSzlBGDiagInfo

TSzlBGDiagInfo

Unit NoDaveComponent

Not used by any known Class

**Description:** 

# III.3 record TSzIBGIdent

# III.3 record TSzlBGIdent

**TSzlBGIdent** 

Unit NoDaveComponent

Not used by any known Class

**Description:** 

# III.4 record TSzIBGState

# III.4 record TSzlBGState

**TSzlBGState** 

Unit NoDaveComponent

Not used by any known Class

**Description:** 

III.5 record TSzlBlockType

# III.5 record TSzlBlockType

TSzlBlockType Unit NoDaveComponent

Not used by any known Class

**Description:** 

# III.6 record TSzlDiagMessage

# III.6 record TSzlDiagMessage

**TSzlDiagMessage** Unit NoDaveComponent This type is **packed**!

Not used by any known Class

**Description:** 

# III.7 record TSzlLedState

# III.7 record TSzlLedState

**TSzlLedState**Unit NoDaveComponent
This type is **packed**!

Not used by any known Class

**Description:** 

# III.8 record TSzlStationState

# III.8 record TSzlStationState

**TSzlStationState** 

Unit NoDaveComponent

Not used by any known Class

**Description:** 

# III.9 record TSzlSystemMemory

# III.9 record TSzlSystemMemory

TSzlSystemMemory
Unit NoDaveComponent

Not used by any known Class

**Description:** 

# III.10 record TSzlUserMemory

# III.10 record TSzlUserMemory

**TSzlUserMemory** Unit NoDaveComponent

Not used by any known Class

**Description:** 

IV Objects

# **IV Objects**

# **IV.1 List of Objects**

No types of this kind!

Objects 25

# **V** Classes

# V.1 List of Classes

TComponent
TNoDave
TThread
TNoDaveConnectThread
TNoDaveReadThread

Figure-Source: ClassList.fig WMF-File: ClassList.wmf

# V.2 class TNoDave

TObject <-- ... <-- TComponent <-- **TNoDave** Unit NoDaveComponent

#### No known Subclasses

### **Used by Classes:**

TNoDaveConnectThread, TNoDaveReadThread

#### **Description:**

The Class TNoDave encapsulates the access to the libnodave.dll of Thomas Hergenhahn. All the settings for the communication are available in the properties of TNoDave.

#### Used in

Register, TNoDaveConnectThread, TNoDaveReadThread

# V.2.1 Properties

## **V.2.1.1** Active

\* property Active: Boolean read GetActive write SetActive

Property for the connection-status.

#### Used in

Connect, Disconnect, DoConnect, ListReachablePartners, ReadBytes, ReadSZL, ResetInterface, WriteBytes, TNoDaveConnectThread.Execute, TNoDaveReadThread.Execute

### V.2.1.2 Area

\* property Area: TNoDaveArea read FArea write SetArea

Property for the PLC-area

#### Used in

TNoDaveReadThread.Execute

#### V.2.1.3 Buffer

\* property Buffer: String read GetBuffer

Property for the pointer to the internal buffer memory.

## V.2.1.4 BufLen

\* property BufLen: Integer read FBufLen write SetBufLen

Property for the length of the buffer.

#### Used in

TNoDaveReadThread.Execute

## V.2.1.5 BufOffs

\* property BufOffs: Integer read FBufOffs write SetBufOffs

Property for the offset of the buffer within the address-range of the PLC.

#### Used in

TNoDaveReadThread.Execute

#### V.2.1.6 COMPort

\* property COMPort: String read FComPort write SetComPort

Property for the name of the COM-Port used for the serial-to-MPI adapter.

#### V.2.1.7 COMSpeed

\* property COMSpeed: TNoDaveComSpeed read FComSpeed write SetComSpeed

Property for the speed of the COM-Port used for the serial-to-MPI adapter.

#### Used in

**DoConnect** 

### V.2.1.8 CPURack

\* property CPURack: Integer read FCpuRack write SetCpuRack

Property for the number of the rack containing the CPU of the PLC.

#### **V.2.1.9 CPUSlot**

\* property CPUSlot: Integer read FCpuSlot write SetCpuSlot

Property for the number of the slot containing the CPU of the PLC.

### V.2.1.10 CycleTime

\* property CycleTime: Cardinal read FCycleTime

Property for the duration in ms of the last communication cycle.

#### V.2.1.11 DBNumber

\* property DBNumber: Integer read FDBNumber write SetDBNumber

Property for the number of the datablock in the PLC.

#### Used in

TNoDaveReadThread.Execute

#### V.2.1.12 DebugOptions

\* property DebugOptions: TNoDaveDebugOptions read GetDebugOptions write SetDebugOptions

Property for the debug-options.

#### V.2.1.13 Interval

\* property Interval: Cardinal read FInterval write SetInterval

Property for the minimal round-trip cycle time for the background-communication with the PLC in milliseconds.

#### Used in

TNoDaveReadThread.Execute

#### V.2.1.14 IntfName

\* property IntfName: String read FIntfName write SetIntfName

Property for the symbolic name of the interface.

#### V.2.1.15 IntfTimeout

\* property IntfTimeout: Integer read FIntfTimeout write SetIntfTimeout

Property for the timeout of the interface in milliseconds.

#### V.2.1.16 IPAddress

\* property IPAddress: String read FIPAddress write SetIPAddress

Property for the IP-address or name of the TCP/IP partner station.

#### V.2.1.17 IPPort

\* property IPPort: Integer read FIPPort write SetIPPort

Property for the IP-port of the TCP/IP partner station.

### V.2.1.18 LastErrMsg

\* property LastErrMsg: String read GetLastErrMsg

Property for the text describing the code in LastError.

#### Used in

TNoDaveReadThread.Execute

#### V.2.1.19 LastError

\* property LastError: Integer read FLastError

Property for the return-code of the last call of a communication-method.

#### Used in

TNo Dave Read Thread. Execute

## V.2.1.20 MaxPDUData

\* property MaxPDUData: Integer read GetMaxPDUData

Property for the maximum datasize of one read-request

#### Used in

DoReadBytes, DoWriteBytes

### V.2.1.21 MPILocal

\* property MPILocal: Integer read FMPILocal write SetMPILocal

Property for the local MPI-address used for the MPI-communication.

#### V.2.1.22 MPIRemote

\* property MPIRemote: Integer read FMPIRemote write SetMPIRemote

Property for the remote MPI-address used for the MPI-communication.

#### V.2.1.23 MPISpeed

\* property MPISpeed: TNoDaveSpeed read FMPISpeed write SetMPISpeed

Property for the MPI-speed used for the MPI-communication.

#### V.2.1.24 OnConnect

\* property OnConnect: TNotifyEvent read FOnConnect write FOnConnect

Property for the OnConnect-eventhandler

#### Used in

**DoOnConnect** 

#### V.2.1.25 OnDisconnect

\* property OnDisconnect: TNotifyEvent read FOnDisconnect write FOnDisconnect

Property for the OnDisconnect-eventhandler

#### Used in

DoOnDisconnect

#### V.2.1.26 OnError

\* property OnError: TNoDaveOnErrorEvent read FOnError write FOnError

Property for the OnError-eventhandler

#### Used in

DoOnError

#### **V.2.1.27 OnRead**

\* property OnRead: TNotifyEvent read FOnRead write FOnRead

Property for the OnRead-eventhandler

#### Used in

DoOnRead

#### **V.2.1.28 OnWrite**

\* property OnWrite: TNotifyEvent read FOnWrite write FOnWrite

Property for the OnWrite-eventhandler

#### Used in

DoOnWrite

#### V.2.1.29 Protocol

\* property Protocol: TNoDaveProtocol read FProtocol write SetProtocol

Property for the Protocol used for the communication with the PLC.

#### Used in

ResetInterface

#### V.2.1.30 SZLCount

\* property SZLCount: Integer read GetSZLCount

Property for the number of items in the internal SZL-Buffer

#### **V.2.1.31 SZLItem**

\* property SZLItem [Index: Integer]: Pointer read GetSZLItem

Property for the items in the internal SZL-Buffer

#### V.2.1.32 SZLItemSize

\* property SZLItemSize: Integer read GetSZLItemSize

Property for the size of one item in the internal SZL-Buffer

#### V.2.2 Methods

#### V.2.2.1 AreaCode

\* function AreaCode(Area: TNoDaveArea): Integer

Determine the S7-ID of an Area.

#### **Parameters**

Area

Requested Area.

#### Result

S7-ID of the Area.

#### Called by

DoReadBytes, DoWriteBytes, DoWriteValue, WriteBit

#### V.2.2.2 BufferAt

\* **function** BufferAt(Address: Integer; Size: Integer = 1; Buffer: Pointer = **Nil**; BufOffs: Integer = 0; BufLen: Integer = 0): Pointer

Return a Pointer to the requested PLC-data point within the buffer.

#### **Parameters**

Address

PLC-Address of the datapoint.

Size

Size of the datapoint in bytes.

Buffer

Pointer to the buffer holding the PLC-data. The internal buffer is used, if Nil (default).

**BufOffs** 

Offset-address of the buffer within the address-range of the PLC.

BufLen

Length of the buffer in bytes.

#### Result

Pointer to the requested data point if the address is located in the buffer, else Nil.

#### Called by

GetBit, GetByte, GetDInt, GetDWord, GetFloat, GetInt, GetWord

#### V.2.2.3 Connect

\* **procedure** Connect(Wait: Boolean = True)

Open the connection to the PLC.

#### **Parameters**

Wait

If False the connection is opened asyncronous in a separate thread. Default is True.

#### Called by

Loaded

#### V.2.2.4 Create

\* constructor Create(aOwner: TComponent); override

Initialize a new instance of the TNoDave component.

#### **Parameters**

aOwner

Owner of the created instance.

#### **Overrides**

Create

#### V.2.2.5 Destroy

\* destructor Destroy; override

Close an active connection and call the inherited Destroy method.

#### **Overrides**

Destroy

#### V.2.2.6 Disconnect

\* procedure Disconnect

Close the connection to the PLC.

#### Called by

Destroy, TNoDaveReadThread.Execute

#### V.2.2.7 DoConnect

\* **procedure** DoConnect(OnlyIntf: Boolean = False)

Open the connection to the PLC specified by the properties Protocol, CPURack, CPUSlot, COMPort, IPAddress, IPPort, MPILocal, MPIRemote and/or MPISpeed

#### **Parameters**

OnlyIntf

Open only the interface, don't connect to the PLC

#### Called by

Connect, ResetInterface, TNoDaveConnectThread.Execute

#### V.2.2.8 DoOnConnect

\* procedure DoOnConnect

Create the worker-thread for cyclic reading if neccessary and call the OnConnect-eventhandler if specified.

#### Called by

Connect, TNoDaveConnectThread.DoOnConnect

#### V.2.2.9 DoOnDisconnect

\* procedure DoOnDisconnect

Stop and Destroy the worker-thread for cyclic reading if neccessary and call the OnDisconnect-eventhandler if specified.

#### Called by

Disconnect

#### V.2.2.10 DoOnError

\* procedure DoOnError(ErrorMsg: String)

Call the OnError-eventhandler if specified.

#### **Parameters**

**ErrorMsg** 

The text-message for the OnError-event

#### Called by

BufferAt, Connect, Disconnect, DoConnect, DoReadBytes, DoWriteBytes, DoWriteValue, WriteBit, TNoDaveConnectThread.DoOnError, TNoDaveReadThread.DoOnError

#### V.2.2.11 DoOnRead

\* procedure DoOnRead

Call the OnRead-eventhandler if specified.

#### Called by

Read Bytes, TNo Dave Read Thread. Do On Read

#### V.2.2.12 DoOnWrite

\* procedure DoOnWrite

Call the OnWrite-eventhandler if specified.

#### Called by

WriteBytes

#### V.2.2.13 DoReadBytes

\* procedure DoReadBytes(Area: TNoDaveArea; DB, Start, Size: Integer; Buffer: Pointer = Nil)

Read the PLC-data into the buffer.

#### **Parameters**

Area

Requested PLC-area.

DB

Number of requested datablock. Only used, if reading from Datablocks in the PLC.

Start

Start-address of the requested data within the address-range of the PLC.

Size

Length of the requested PLC-data in bytes.

Buffer

Pointer to the buffer. The internal buffer of the instance is used, if Nil (default).

#### Called by

ReadBytes, ReadBytes, TNoDaveReadThread.Execute

#### V.2.2.14 DoSetDebug

\* procedure DoSetDebug(Options: Integer)

Set the debug-options of the libnodave.dll

#### **Parameters**

**Options** 

Value of the debug-options.

#### V.2.2.15 DoWriteBytes

\* procedure DoWriteBytes(Area: TNoDaveArea; DB, Start, Size: Integer; Buffer: Pointer = Nil)

Write the Buffer-data into the PLC.

#### **Parameters**

Area

Requested PLC-area.

DB

Number of requested datablock. Only used, if reading from Datablocks in the PLC.

Start

Start-address of the requested data within the address-range of the PLC.

Size

Length of the requested PLC-data in bytes.

Ruffer

Pointer to the buffer. The internal buffer of the instance is used, if Nil (default).

#### Called by

WriteBytes, WriteBytes

#### V.2.2.16 DoWriteValue

\* procedure DoWriteValue(Address, Size: Integer; Value: Pointer)

Write a single value into the specified address of the PLC without changing the properties of the TNoDave-instance.

#### **Parameters**

Address

PLC-Address of the data point.

Size

Size in bytes of the value.

Value

The value to be written.

#### Called by

WriteByte, WriteDInt, WriteDWord, WriteFloat, WriteInt, WriteWord

#### **V.2.2.17 GetBit**

\* function GetBit(Address, Bit: Integer; Buffer: Pointer = Nil; BufOffs: Integer = 0; BufLen: Integer = 0): Boolean

Return the Bit-value read last from the PLC at the specified address.

#### **Parameters**

Address

Byte-address of the requested value

Bit

Bit-address of the requested value

Buffer

Pointer to the buffer holding the PLC-data. The internal buffer is used, if Nil (default).

BufOffs

Offset-address of the buffer within the address-range of the PLC.

BufLen

Length of the buffer in bytes.

#### Result

The requested value or False, if the requested address was not found within the buffer.

#### V.2.2.18 GetByte

\* **function** GetByte(Address: Integer; Buffer: Pointer = **Nil**; BufOffs: Integer = 0; BufLen: Integer = 0): Byte

Return the Byte-value read last from the PLC at the specified address.

#### **Parameters**

Address

Address of the requested value

Buffer

Pointer to the buffer holding the PLC-data. The internal buffer is used, if Nil (default).

**BufOffs** 

Offset-address of the buffer within the address-range of the PLC.

BufLen

Length of the buffer in bytes.

#### Result

The requested value or 0, if the requested address was not found within the buffer.

#### **V.2.2.19 GetDInt**

\* **function** GetDInt(Address: Integer; Buffer: Pointer = **Nil**; BufOffs: Integer = 0; BufLen: Integer = 0): LongInt

Return the LongInt-value read last from the PLC at the specified address.

#### **Parameters**

Address

Address of the requested value

Buffer

Pointer to the buffer holding the PLC-data. The internal buffer is used, if Nil (default).

**BufOffs** 

Offset-address of the buffer within the address-range of the PLC.

BufLen

Length of the buffer in bytes.

#### Result

The requested value or 0, if the requested address was not found within the buffer.

#### V.2.2.20 GetDWord

\* function GetDWord(Address: Integer; Buffer: Pointer = Nil; BufOffs: Integer = 0; BufLen: Integer = 0): LongWord

Return the LongWord-value read last from the PLC at the specified address.

#### **Parameters**

Address

Address of the requested value

Buffer

Pointer to the buffer holding the PLC-data. The internal buffer is used, if Nil (default).

BufOffs

Offset-address of the buffer within the address-range of the PLC.

BufLen

Length of the buffer in bytes.

#### Result

The requested value or 0, if the requested address was not found within the buffer.

#### V.2.2.21 GetErrorMsg

\* function GetErrorMsg(Error: Integer): String

Return the text message for an error code.

#### **Parameters**

Error

The error code.

#### Result

Text message correspondig to the error code.

#### V.2.2.22 GetFloat

\* function GetFloat(Address: Integer; Buffer: Pointer = Nil; BufOffs: Integer = 0; BufLen: Integer = 0): Double

Return the Float-value read last from the PLC at the specified address.

#### **Parameters**

Address

Address of the requested value

Buffer

Pointer to the buffer holding the PLC-data. The internal buffer is used, if Nil (default).

BufOffs

Offset-address of the buffer within the address-range of the PLC.

BufLen

Length of the buffer in bytes.

#### Result

The requested value or 0, if the requested address was not found within the buffer.

#### V.2.2.23 GetInt

\* function GetInt(Address: Integer; Buffer: Pointer = Nil; BufOffs: Integer = 0; BufLen: Integer = 0): SmallInt

Return the SmallInt-value read last from the PLC at the specified address.

#### **Parameters**

Address

Address of the requested value

Buffer

Pointer to the buffer holding the PLC-data. The internal buffer is used, if Nil (default).

BufOffs

Offset-address of the buffer within the address-range of the PLC.

BufLen

Length of the buffer in bytes.

#### Result

The requested value or 0, if the requested address was not found within the buffer.

#### V.2.2.24 GetWord

\* function GetWord(Address: Integer; Buffer: Pointer = Nil; BufOffs: Integer = 0; BufLen: Integer = 0): Word

Return the Word-value read last from the PLC at the specified address.

#### **Parameters**

Address

Address of the requested value

Buffer

Pointer to the buffer holding the PLC-data. The internal buffer is used, if Nil (default).

BufOffs

Offset-address of the buffer within the address-range of the PLC.

BufLen

Length of the buffer in bytes.

#### Result

The requested value or 0, if the requested address was not found within the buffer.

#### Called by

ReadSZL

#### V.2.2.25 ListReachablePartners

\* function ListReachablePartners: TNoDaveReachablePartnersMPI

Scan the MPI-bus for all reachable partners

#### Result

List with True for available partners and False for unavailable partners.

#### V.2.2.26 Loaded

\* procedure Loaded; override

Open the connection to the PLC after the instance is completely loaded from the stream and if Active is True.

#### **Overrides**

Loaded

#### V.2.2.27 Lock

\* procedure Lock

Lock the communication-routines for the current tread.

#### V.2.2.28 ProtCode

\* function ProtCode(Prot: TNoDaveProtocol): Integer

Determine the libnodave.dll-code of a protocol

#### **Parameters**

Prot

The requested protocol

#### Result

The libnodave.dll code for the protocol

#### Called by

DoConnect

#### V.2.2.29 ReadBytes

\* procedure ReadBytes(Area: TNoDaveArea; DB, Start, Size: Integer; Buffer: Pointer = Nil); overload

Read the specified Data from the PLC into the buffer.

#### **Parameters**

Area

Requested PLC-area.

DΒ

Number of requested datablock. Only used, if reading from Datablocks in the PLC.

Start

Start-address of the requested data within the address-range of the PLC.

Size

Length of the requested PLC-data in bytes.

Buffer

Pointer to the buffer for PLC-data. The internal buffer is used, if Nil (default).

#### V.2.2.30 ReadBytes

\* procedure ReadBytes(Buffer: Pointer = Nil); overload

Read the Data specified by the properties Area, DBNumber, BufOffs and BufLen from the PLC into the buffer.

#### **Parameters**

Buffer

Pointer to the buffer for PLC-data. The internal buffer is used, if Nil (default).

#### Called by

DoConnect, ReadBytes

#### V.2.2.31 ReadSZL

\* function ReadSZL(ID, Index: Integer): Integer

Read a SZL-list from the connected PLC.

#### **Parameters**

ID

The SZL-ID of the list.

Index

The SZL-Index of the list.

#### Result

Error code for the function result, 0 if OK.

#### V.2.2.32 ResetInterface

\* procedure ResetInterface

Reset the NetLink-adapter via network-command

#### V.2.2.33 Swap16

\* function Swap16(Value: SmallInt): SmallInt

Swap the byte-order in a 16-bit value.

#### **Parameters**

Value

The value for the conversion.

#### Result

The converted value.

#### V.2.2.34 Swap32

\* function Swap32(Value: Integer): Integer

Swap the byte-order in a 32-bit value.

#### **Parameters**

Value

The value for the conversion.

#### Result

The converted value.

#### V.2.2.35 Unlock

\* procedure Unlock

Unlock the communication-routines for other threads.

#### V.2.2.36 WriteBit

\* procedure WriteBit(Area: TNoDaveArea; DB, Address, Bit: Integer; Value: Boolean); overload

Write a Bit-value into the PLC at the specified address without changing the properties of the TNoDave-instance.

#### **Parameters**

Area

Requested PLC-area.

DB

Number of requested datablock. Only used, if writing into datablocks of the PLC.

Address

Byte-address of the value

Bit

Bit-address of the value

Value

Value to write into the PLC.

#### Called by

WriteBit

#### V.2.2.37 WriteBit

\* procedure WriteBit(Address, Bit: Integer; Value: Boolean); overload

Write a Bit-value into the PLC at the specified address without changing the properties of the TNoDave-instance.

#### **Parameters**

Address

Byte-address of the value

Rit

Bit-address of the value

Value

Value to write into the PLC.

#### V.2.2.38 WriteByte

\* procedure WriteByte(Address: Integer; Value: Byte)

Write a Byte-value into the PLC at the specified address without changing the properties of the TNoDave -instance.

#### **Parameters**

Address

Byte-address of the value

Value

Value to write into the PLC.

#### V.2.2.39 WriteBytes

\* procedure WriteBytes(Area: TNoDaveArea; DB, Start, Size: Integer; Buffer: Pointer = Nil); overload

Write the buffer into the PLC at the specified address after setting up the properties with the given values.

#### **Parameters**

Area

Requested PLC-area. Changes the property Area.

DB

Number of requested datablock. Changes the property DBNumber. Only used, if writing into datablocks of the PLC.

Start

Start-address of the buffer within the address-range of the PLC. Changes the property BufOffs.

Size

Length of the buffer in bytes. Changes the property BufLen.

Buffer

Pointer to the buffer for PLC-data. The internal buffer is used, if Nil (default).

#### V.2.2.40 WriteBytes

\* procedure WriteBytes(Buffer: Pointer = Nil); overload

Write the buffer into the PLC at the address specified by the properties Area, DBNumber, BufOffs and BufLen.

#### **Parameters**

Buffer

Pointer to the buffer for PLC-data. The internal buffer is used, if Nil (default).

#### Called by

WriteBytes

#### V.2.2.41 WriteDInt

\* procedure WriteDInt(Address: Integer; Value: LongInt)

Write a LongInt-value into the PLC at the specified address without changing the properties of the TNoDave-instance.

#### **Parameters**

Address

Byte-address of the value

Value

Value to write into the PLC.

#### V.2.2.42 WriteDWord

\* procedure WriteDWord(Address: Integer; Value: LongWord)

Write a LongWord-value into the PLC at the specified address without changing the properties of the TNoDave-instance.

#### **Parameters**

Address

Byte-address of the value

Value

Value to write into the PLC.

#### V.2.2.43 WriteFloat

\* procedure WriteFloat(Address: Integer; Value: Single)

Write a Float-value into the PLC at the specified address without changing the properties of the TNoDave -instance.

#### **Parameters**

Address

Byte-address of the value

Value

Value to write into the PLC.

#### V.2.2.44 WriteInt

\* procedure WriteInt(Address: Integer; Value: SmallInt)

Write a SmallInt-value into the PLC at the specified address without changing the properties of the TNoDave-instance.

#### **Parameters**

Address

Byte-address of the value

Value

Value to write into the PLC.

#### V.2.2.45 WriteWord

\* procedure WriteWord(Address: Integer; Value: Word)

Write a Word-value into the PLC at the specified address without changing the properties of the TNoDave-instance.

#### **Parameters**

Address

Byte-address of the value

Value

Value to write into the PLC.

### V.3 class TNoDaveConnectThread

TObject <-- ... <-- TThread <-- TNoDaveConnectThread Unit NoDaveComponent

#### No known Subclasses

#### Not used by any known Class

#### **Description:**

Worker-thread for asynchronous connecting with the PLC.

#### Used in

TNoDave.Connect

#### V.3.1 Methods

#### **V.3.1.1** Create

\* constructor Create(Target: TNoDave)

Create the worker-thread for asynchronous connecting with the PLC.

#### **Parameters**

**Target** 

The TNoDave-instance to connect with the PLC.

#### Called by

TNoDave.Connect

#### V.3.1.2 DoOnConnect

\* procedure DoOnConnect

Synchronization-method for calling the OnConnect-Event of the TNoDave-instance.

#### Called by

Execute

#### V.3.1.3 DoOnError

\* procedure DoOnError

Synchronization-method for calling the OnError-Event of the TNoDave-instance.

#### Called by

Execute

#### V.3.1.4 Execute

\* procedure Execute; override

Open the connection to the PLC. If successfull then call the OnConnect-Event else call the OnError-Event of the TNoDave-instance.

#### **Overrides**

Execute

### V.4 class TNoDaveReadThread

TObject <-- ... <-- TThread <-- TNoDaveReadThread Unit NoDaveComponent

#### No known Subclasses

#### Not used by any known Class

#### **Description:**

Worker-thread for the background-communication with the PLC.

#### Used in

TNoDave.DoOnConnect

#### V.4.1 Methods

#### **V.4.1.1** Create

\* constructor Create(Target: TNoDave)

Create the worker-thread for the background-communication with the PLC.

#### **Parameters**

**Target** 

The TNoDave-instance for the communication with the PLC.

#### Called by

TNoDave.DoOnConnect

#### V.4.1.2 DoOnError

\* procedure DoOnError

Synchronization-method for calling the OnError-Event of the TNoDave-instance.

#### Called by

Execute

#### V.4.1.3 DoOnRead

\* procedure DoOnRead

Synchronization-method for calling the OnRead-Event of the TNoDave-instance.

#### Called by

Execute

#### V.4.1.4 Execute

\* procedure Execute; override

Read the data from the PLC, call the OnRead-Event of the TNoDave-instance, wait until the round-trip cycle time is reached and then start again from the beginning until the Connection of the TNoDave-instance is active. Disconnect the TNoDave-instance if the connection is not longer valid.

#### **Overrides**

Execute

VI Interfaces

# **VI Interfaces**

# **VI.1 List of Interfaces**

No types of this kind!

Interfaces 44

# **VII Dispatch-Interfaces**

# VII.1 List of Dispatch-Interfaces

No types of this kind!

Dispatch-Interfaces

VIII Lists/Appendix

# VIII Lists/Appendix

# **VIII.1 List of unfinished Identifiers**

VIII.1.1 List of unfinished files

NoDaveComponent

# **VIII.2** List of long Functions

#### # of Lines Name of Function

- 51 TNoDave.DoConnect
- 35 TNoDave.ReadSZL
- 27 TNoDave.ListReachablePartners
- 26 TNoDave.Create
- 25 TNoDaveReadThread.Execute
- 22 TNoDave.AreaCode
- 22 TNoDave.DoReadBytes

### VIII.3 Index of Identifiers and Files starting with "A"

Identifier	File	Record-Like Type
Active	NoDaveComponent	TNoDave
Area	NoDaveComponent	TNoDave
AreaCode	NoDaveComponent	TNoDave

# VIII.4 Index of Identifiers and Files starting with "B"

Identifier	File	Record-Like Type
BAF	NoDaveComponent	
Buffer	NoDaveComponent	TNoDave
BufferAt	NoDaveComponent	TNoDave
BufLen	NoDaveComponent	TNoDave
BufOffs	NoDaveComponent	TNoDave
BUS1F	NoDaveComponent	
BUS2F	NoDaveComponent	

## VIII.5 Index of Identifiers and Files starting with "C"

Identifier	File	Record-Like Type
COMPort	NoDaveComponent	TNoDave
COMSpeed	NoDaveComponent	TNoDave
Connect	NoDaveComponent	TNoDave
CPURack	NoDaveComponent	TNoDave
CPUSlot	NoDaveComponent	TNoDave
Create	NoDaveComponent	TNoDave
Create	NoDaveComponent	TNoDaveConnectThread
Create	NoDaveComponent	TNoDaveReadThread
CRST	NoDaveComponent	
CycleTime	NoDaveComponent	TNoDave

# VIII.6 Index of Identifiers and Files starting with "D"

Identifier	File	Record-Like Type
daveAnaIn	NoDaveComponent	
daveAnaOut	NoDaveComponent	
daveComSpeed115_2k	NoDaveComponent	
daveComSpeed19_2k	NoDaveComponent	
daveComSpeed38_4k	NoDaveComponent	
daveComSpeed57_6k	NoDaveComponent	
daveComSpeed9_6k	NoDaveComponent	
daveCounter	NoDaveComponent	
daveDB	NoDaveComponent	
daveDebugByte	NoDaveComponent	
daveDebugCompare	NoDaveComponent	
daveDebugConnect	NoDaveComponent	
daveDebugExchange	NoDaveComponent	
daveDebugInitAdapter	NoDaveComponent	
daveDebugListReachables	NoDaveComponent	
daveDebugMPI	NoDaveComponent	
daveDebugPacket	NoDaveComponent	
daveDebugPassive	NoDaveComponent	
daveDebugPDU	NoDaveComponent	
daveDebugPrintErrors	NoDaveComponent	

#### VIII.6 Index of Identifiers and Files starting with "D"

daveDebugRawRead NoDaveComponent daveDebugRawWrite NoDaveComponent daveDebugSpecialChars NoDaveComponent daveDebugUpload NoDaveComponent daveDI NoDaveComponent daveFlags NoDaveComponent daveInputs NoDaveComponent daveLocal NoDaveComponent daveOutputs NoDaveComponent NoDaveComponent daveP daveProtoAS511 NoDaveComponent daveProtoIBH NoDaveComponent daveProtoIBH PPI NoDaveComponent NoDaveComponent daveProtoISOTCP daveProtoISOTCP243 NoDaveComponent daveProtoMPI NoDaveComponent daveProtoMPI2 NoDaveComponent daveProtoMPI3 NoDaveComponent daveProtoMPI4 **NoDaveComponent** daveProtoNLPro NoDaveComponent daveProtoPPI NoDaveComponent daveProtoS7Online NoDaveComponent daveSpeed1500k NoDaveComponent daveSpeed187k NoDaveComponent daveSpeed19k NoDaveComponent daveSpeed45k NoDaveComponent daveSpeed500k NoDaveComponent daveSpeed93k NoDaveComponent daveSpeed9k NoDaveComponent daveSysFlags NoDaveComponent daveSysInfo NoDaveComponent daveTimer NoDaveComponent daveV NoDaveComponent **DBNumber** NoDaveComponent

**TNoDave TNoDave DebugOptions** NoDaveComponent **TNoDave** Destroy NoDaveComponent Disconnect NoDaveComponent **TNoDave DoConnect** NoDaveComponent **TNoDave DoOnConnect** NoDaveComponent **TNoDave** 

DoOnConnect NoDaveComponent TNoDaveConnectThread

DoOnDisconnect NoDaveComponent TNoDave DoOnError NoDaveComponent TNoDave

DoOnErrorNoDaveComponentTNoDaveConnectThreadDoOnErrorNoDaveComponentTNoDaveReadThread

DoOnRead NoDaveComponent TNoDave

DoOnRead NoDaveComponent TNoDaveReadThread

DoOnWriteNoDaveComponentTNoDaveDoReadBytesNoDaveComponentTNoDaveDoSetDebugNoDaveComponentTNoDaveDoWriteBytesNoDaveComponentTNoDaveDoWriteValueNoDaveComponentTNoDave

### VIII.7 Index of Identifiers and Files starting with "E"

Identifier	File	Record-Like Type
Execute	NoDaveComponent	TNoDaveConnectThread
Execute	NoDaveComponent	TNoDaveReadThread
EXTF	NoDaveComponent	

### VIII.8 Index of Identifiers and Files starting with "F"

IdentifierFileRecord-Like TypeFRCENoDaveComponent

### VIII.9 Index of Identifiers and Files starting with "G"

Identifier	File	Record-Like Type
GetBit	NoDaveComponent	TNoDave
GetByte	NoDaveComponent	TNoDave
GetDInt	NoDaveComponent	TNoDave
GetDWord	NoDaveComponent	TNoDave
GetErrorMsg	NoDaveComponent	TNoDave
GetFloat	NoDaveComponent	TNoDave
GetInt	NoDaveComponent	TNoDave
GetWord	NoDaveComponent	TNoDave

### VIII.10 Index of Identifiers and Files starting with "H"

Identifier File Record-Like Type

### VIII.11 Index of Identifiers and Files starting with "I"

Identifier	File	Record-Like Type
IFM1F	NoDaveComponent	
IFM2F	NoDaveComponent	
Interval	NoDaveComponent	TNoDave
INTF	NoDaveComponent	
IntfName	NoDaveComponent	TNoDave
IntfTimeout	NoDaveComponent	TNoDave
IPAddress	NoDaveComponent	TNoDave
IPPort	NoDaveComponent	TNoDave

# VIII.12 Index of Identifiers and Files starting with "J"

Identifier File Record-Like Type

### VIII.13 Index of Identifiers and Files starting with "K"

Identifier File Record-Like Type

### VIII.14 Index of Identifiers and Files starting with "L"

Identifier	File	Record-Like Type
LastErrMsg	NoDaveComponent	TNoDave
LastError	NoDaveComponent	TNoDave
ListReachablePartners	NoDaveComponent	TNoDave
Loaded	NoDaveComponent	TNoDave
Lock	NoDaveComponent	TNoDave

## VIII.15 Index of Identifiers and Files starting with "M"

Identifier	File	Record-Like Type
MaxPDUData	NoDaveComponent	TNoDave
MPILocal	NoDaveComponent	TNoDave
MPIRemote	NoDaveComponent	TNoDave
MPISpeed	NoDaveComponent	TNoDave
MSTR	NoDaveComponent	

## VIII.16 Index of Identifiers and Files starting with "N"

Identifier	File	Record-Like Type
	NoDaveComponent	
NONE	NoDaveComponent	

# VIII.17 Index of Identifiers and Files starting with "O"

Identifier	File	Record-Like Type
OnConnect	NoDaveComponent	TNoDave
OnDisconnect	NoDaveComponent	TNoDave
OnError	NoDaveComponent	TNoDave
OnRead	NoDaveComponent	TNoDave
OnWrite	NoDaveComponent	TNoDave

## VIII.18 Index of Identifiers and Files starting with "P"

Identifier	File	Record-Like Type
ProtCode	NoDaveComponent	TNoDave
Protocol	NoDaveComponent	TNoDave
PSzlBGDiagInfo	NoDaveComponent	
PSzlBGIdent	NoDaveComponent	
PSzlBGState	NoDaveComponent	
PSzlBlockType	NoDaveComponent	
PSzlDiagMessage	NoDaveComponent	
PSzlLedState	NoDaveComponent	
PSzlStationState	NoDaveComponent	
PSzlSystemMemory	NoDaveComponent	
PSzlUserMemory	NoDaveComponent	

### VIII.19 Index of Identifiers and Files starting with "Q"

Identifier File Record-Like Type

## VIII.20 Index of Identifiers and Files starting with "R"

Identifier	File	Record-Like Type
RACK0	NoDaveComponent	
RACK1	NoDaveComponent	
RACK2	NoDaveComponent	
ReadBytes	NoDaveComponent	TNoDave
ReadBytes	NoDaveComponent	TNoDave
ReadSZL	NoDaveComponent	TNoDave
REDF	NoDaveComponent	
Register	NoDaveComponent	
ResetInterface	NoDaveComponent	TNoDave
RUN	NoDaveComponent	

## VIII.21 Index of Identifiers and Files starting with "S"

Identifier	File	Record-Like Type
SF	NoDaveComponent	
STOP	NoDaveComponent	
Swap16	NoDaveComponent	TNoDave
Swap32	NoDaveComponent	TNoDave
SZLCount	NoDaveComponent	TNoDave
SZLItem	NoDaveComponent	TNoDave
SZLItemSize	NoDaveComponent	TNoDave

### VIII.22 Index of Identifiers and Files starting with "T"

Identifier	File	Record-Like Type
TNoDave	NoDaveComponent	
TNoDaveArea	NoDaveComponent	
TNoDaveComSpeed	NoDaveComponent	
TNoDaveConnectThread	NoDaveComponent	
TNoDaveDebugOption	NoDaveComponent	
TNoDaveDebugOptions	NoDaveComponent	
TNoDaveOnErrorEvent	NoDaveComponent	
TNoDaveProtocol	NoDaveComponent	
TNoDaveReachablePartnersMPI	NoDaveComponent	
TNoDaveReadThread	NoDaveComponent	
TNoDaveSpeed	NoDaveComponent	
TSzlBGDiagInfo	NoDaveComponent	
TSzlBGIdent	NoDaveComponent	
TSzlBGState	NoDaveComponent	
TSzlBlockType	NoDaveComponent	
TSzlDiagMessage	NoDaveComponent	
TSzlLed	NoDaveComponent	
TSzlLedState	NoDaveComponent	
TSzlStationState	NoDaveComponent	
TSzlSystemMemory	NoDaveComponent	
TSzlUserMemory	NoDaveComponent	

### VIII.23 Index of Identifiers and Files starting with "U"

IdentifierFileRecord-Like TypeUnlockNoDaveComponentTNoDave

USR NoDaveComponent USR1 NoDaveComponent

### VIII.24 Index of Identifiers and Files starting with "V"

Identifier File Record-Like Type

### VIII.25 Index of Identifiers and Files starting with "W"

Identifier	File	Record-Like Type
WriteBit	NoDaveComponent	TNoDave
WriteBit	NoDaveComponent	TNoDave
WriteByte	NoDaveComponent	TNoDave
WriteBytes	NoDaveComponent	TNoDave
WriteBytes	NoDaveComponent	TNoDave
WriteDInt	NoDaveComponent	TNoDave
WriteDWord	NoDaveComponent	TNoDave
WriteFloat	NoDaveComponent	TNoDave
WriteInt	NoDaveComponent	TNoDave
WriteWord	NoDaveComponent	TNoDave

### VIII.26 Index of Identifiers and Files starting with "X"

Identifier File Record-Like Type

### VIII.27 Index of Identifiers and Files starting with "Y"

Identifier File Record-Like Type

### VIII.28 Index of Identifiers and Files starting with "Z"

Identifier File Record-Like Type

# VIII.29 Index of Identifiers and Files starting with "\_"

Identifier File Record-Like Type

# VIII.30 Legend

- **«»** = deprecated

- \* = unit implementation
- \* = unit interface
- \* = private
- \* = protected \* = public
- \* = published
- \* = automated
- \* = read-only
- ÷ = abstract