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excom I/O System Integration with ABB Control Builder M via PROFIBUS

Integration Manual

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Contents

1	About thi	s manual	. 5		
	1.1	Target groups	. 5		
	1.2	Explanation of symbols used	. 5		
	1.3	Other documents	. 5		
	1.4	Feedback about these instructions	. 5		
2	Notes on	Notes on the system			
	2.1	System identification	. 6		
	2.2	Turck service	. 6		
3	For your safety				
	3.1	Intended use	. 7		
	3.2	General safety notes	. 7		
	3.3	Notes on Ex protection	. 7		
4	Integratir	ng an excom system in ABB Compact Control Builder M	. 8		
	4.1	Requirements	. 8		
	4.1.1	Hardware requirements	. 8		
	4.1.2	Software requirements	. 9		
	4.2	Installing a GSD configuration file	. 9		
	4.3	Defining the GSD signal	11		
	4.3.1	Setting GSD signals for individual modules	15		
	4.3.2	GSD signals – setting diagnostics	24		
	4.4	Adding excom I/O modules to the AC 800M	27		
	4.5	Setting excom I/O module parameters	29		
	4.6	Configuring I/O data	31		
	4.7	Loading the current configuration into the AC 800M	34		
	4.8	Online mode	35		
5	Turck sub	sidiaries — contact information	36		



1 About this manual

The manual describes the integration of the excom system in the ABB Compact Control Builder M control system for AC 800M via PROFIBUS-DP.

Read this manual and the applicable documents carefully before the integration. This will prevent the risk of personal injury and damage to property. Keep this manual safe during the service life of the product. If the product is passed on, hand over this manual as well.

The manual describes the possibilities for GSD-based integration from the installation right through to the handling of the I/O data and the associated diagnostics.

1.1 Target groups

These instructions are written for specifically trained personnel and must be read carefully by anyone entrusted with the commissioning, operation and maintenance of the system.

When using the device in Ex circuits, the user must also have an additional knowledge of explosion protection (IEC/EN 60079-14 etc.).

1.2 Explanation of symbols used

The following symbols are used in these instructions:

	DANGER DANGER indicates a dangerous situation with high risk of death or severe injury if not avoided.
	WARNING WARNING indicates a dangerous situation with medium risk of death or severe in- jury if not avoided.
	CAUTION CAUTION indicates a dangerous situation of medium risk which may result in minor or moderate injury if not avoided.
!	NOTICE NOTICE indicates a situation which may lead to property damage if not avoided.
i	NOTE NOTE indicates tips, recommendations and useful information on specific actions and facts. The notes simplify your work and help you to avoid additional work.
	CALL TO ACTION This symbol denotes actions that the user must carry out.
₽	RESULTS OF ACTION This symbol denotes relevant results of actions.

1.3 Other documents

Besides this document the following material can be found on the Internet at www.turck.com:

- Data sheets
- Quick start guide
- excom manuals
- Approvals

1.4 Feedback about these instructions

We make every effort to ensure that these instructions are as informative and as clear as possible. If you have any suggestions for improving the design or if some information is missing in the document, please send your suggestions to **techdoc@turck.com**.

2 Notes on the system

2.1 System identification

This manual applies to the following PROFIBUS DP gateways for excom:

- GDP-N...
- GDP-IS...

2.2 Turck service

Turck supports you with your projects, from initial analysis to the commissioning of your application. The Turck product database under **www.turck.com** contains software tools for programming, configuration or commissioning, data sheets and CAD files in numerous export formats.

The contact details of Turck subsidiaries worldwide can be found on p. [> 36].



3 For your safety

The product is designed according to state-of-the-art technology. However, residual risks still exist. Observe the following warnings and safety notices to prevent damage to persons and property. Turck accepts no liability for damage caused by failure to observe these warning and safety notices.

3.1 Intended use

The excom system is integrated in ABB Control Builder M via PROFIBUS-DP using a GDP file.

The devices may only be used as described in these instructions. Any other use is not in accordance with the intended use. Turck accepts no liability for any resulting damage.

3.2 General safety notes

- The device may only be assembled, installed, operated, parameterized and maintained by professionally-trained personnel.
- The device may only be used in accordance with applicable national and international regulations, standards and laws.
- The device meets the EMC requirements for industrial areas. When used in residential areas, take measures to avoid radio interference.

3.3 Notes on Ex protection

- Only use the device in Ex areas when installed in the appropriate protective housing.
- Observe national and international regulations for explosion protection.
- When operating the device in a hazardous area, the user must have a working knowledge of explosion protection (IEC/EN 60079-14, etc.).
- Only use the device within the permitted operating and ambient conditions (see Certification data and conditions resulting from the Ex-approval).
- Fit blank modules (BM1) on unused slots on the module rack.
- Cables and terminals with intrinsically safe circuits must be indicated use light blue for color-coding. Separate cables and terminals from non-intrinsically safe circuits or isolate accordingly (IEC/EN 60079-14).
- Complete certification of intrinsic safety.
- Never connect equipment to intrinsically safe circuits if this equipment was previously used once in non-intrinsically safe circuits.
- Please follow the instructions for use for the built-in equipment.

4 Integrating an excom system in ABB Compact Control Builder M

- 4.1 Requirements
- 4.1.1 Hardware requirements

This example uses the following hardware:

ABB hardware

ABB AC 800M Controller

Turck hardware

- MT08-3G module rack
- PSM24-3G.1 power supply module
- GDP-IS/FW2.3 gateway
- DM80EX digital I/O module
- DO40EX digital output module
- AIH40EX analog input module
- AOH40EX analog output module
- PROFIBUS-DP cable



Fig. 1: Example setup of the excom station



4.1.2 Software requirements



This example uses the following software:

ABB software

- ABB Compact Control Builder AC 800M
- GSD communication file V1.6.4

Turck software

- Gateway firmware V2.3
- 4.2 Installing a GSD configuration file

The GSD file can be downloaded as a free Zip file from www.turck.com.

Unpack the zip file.

Adding a GSD configuration file to the library

Proceed as follows to install the GSD file:

- Start Compact Control Builder AC 800M.
- Create a new project or use an existing project.
- ► Choose project (here: Turck_Test) → Libraries.
- Right-click Hardware.
- Click New Library....

🕵 Compact Control Builder AC 800M - Turck_Test (Offline)



Fig. 2: Opening New Library...

• Define the name (here: **Turck_excom**) and location.

Click O	Κ.
---------	----

🕵 New Library				
Name:	Turck_excom			
Location: ol Builder AC 800M\Projects\Libraries\Hardware\ Bro				
	OK Cancel			

Fig. 3: Defining the file name and memory location

- Choose Hardware \rightarrow Turck_excom.
- ► Right-click Hardware Types.
- Click Insert/Replace Hardware Type(s)....

🕵 Compact Control Builder AC 800M - Turck_Test (Offline)

File Edit View Tools Help
E 🎦 🐌 🥦 🥵 l 🔞
🖃 🗤 🖏 Turck_Test
🗄 📖 🔟 Libraries
👜 📖 🍿 System
👜 🛲 🇊 BasicLib 1.9-5
👜 🔤 IconLib 1.6-2
🖃 🔤 Hardware
😥 💵 BasicHwLib 6.1-1
🖃 🗰 Cl853SerialComHwLib 1.0-2
🖃 🗰 Cl854PROFIBUSHwLib 2.22-9
👜 🗤 🍿 \$800Cl801Cl854HwLib 1.5-2
🛓 🗊 S800Cl840Cl854HwLib 1.5-2
🛓 🗤 🇊 S800IoModulebusHwLib 1.5-3
🚛 🗤 🗊 SerialHwLib 2.10-3
im III Turck_excom
Hardware 1 Insert/Replace Hardware Type(s)
🖶 🚥 🔹 Application
🗄 ····· 🔠 Controllers

Fig. 4: Hardware Types – Insert/Replace Hardware Type(s)...

⇒ The Insert Hardware Definitions window opens.



- Select the ***.gs?** file type in the drop-down menu.
- Select the **T164FF9F.GSD** GSD configuration file.
- Click Open.

🛍 Insert Hardware Definitions 🛛 🕹				
\leftarrow \rightarrow \checkmark \uparrow \bigcirc excom_GSD \rightarrow excom_V164 \checkmark \circlearrowright	Search excom_V164	م		
Organize 🔻 New folder		•		
APR A CRONA NA ★	Date modified 04/05/2015 14:41 04/05/2015 14:36	Type GSD File GSG File		
File name: T164FF9F	Profibus (*.gs?) Open	∼ Cancel		

Fig. 5: Selecting the GSD configuration file

4.3 Defining the GSD signal

Once the GSD configuration file has been selected, the **Device Import Wizard** opens.

Click Next.					
🖉 Device Import Wizar	d — □ ×				
ABB	Welcome to the Device Import Wizard.				
	This wizard will help you to import a new device type into the system.				
	Press Next to begin your work or Cancel to close the wizard.				
	Device file to import				
	T164FF9F.GSD				
	Device type to import				
	Profibus				
Help	<back next=""> Cancel</back>				

Fig. 6: Device Import Wizard window

- At to be used in the system select **DefaultIOType** in the drop-down menu.
- Click Next.

📽 PROFIBUS GSD file import -Device information — 🗌 🛛 🛛							
Device information							
	from GSD file	to be used in the system					
Model name	excom (1_6_4)	excom (1_6_4)					
Description	Remote I/O System	Remote I/O System					
PNO ID	16#ff9f						
Vendor name	Hans Turck GmbH & Co. KG						
Slave icon in HW tree	•	🚟 DefaultIOType 🗸 🗸					
	Open GSD viewer						
Help	< Back	Next > Cancel					
Fig. 7: Selecting the DefaultIOType							



- ⇒ The **PROFIBUS GSD file import Module selection** window opens.
- Click Select all.
- Click Next.

🕮 PROFIBUS GSD file import - Module selection 🛛 🚽 🖂

DM80 DM80 8I DM80 S DM80 S 8I DO40_ DO60R DO80_ Empty slot GDP GDP C GDP YO TI40 R TI40 T TI41	*	Module information Original name from GSD Al40_ Name to be used in the system Al40_ Description from GSD Analog input, 4 x 1 channel, active/passive Description to be used in the system Analog input, 4 x 1 channel, active/passive Icon in HW tree Million DefaultIOType	
Select all Sele	ect none	Open GSD viewer	
Help		< Back Next > Cancel	

Fig. 8: PROFIBUS GSD file import - Module selection window

- In the PROFIBUS GSD file import Parameter settings window check whether all modules are marked with a green tick. If one or several modules have a red tick: Check whether the parameter settings of two configurations are the same.
- Click Next.

🖉 PROFIBUS GSD file import -Parameter settings 🛛 – 🔲 🛛 🛛					
DI80 DI80 S DM80 DM80 8I DM80 S DM80 S DM80 S 8I DO40_ DO40_ DO60R DO80_ Empty slot GDP GDP C GDP YO TI40 R TI40 T TI41	 Selected modul excom (1_6_4) Number of parameter bytes defined in GSD file 3 Customize GSD UserPrmData ✓ Definition OK ✓ Overlap with another parameter 				
Help	< Back Next > Cancel				

Fig. 9: All modules defined



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4.3.1 Setting GSD signals for individual modules

The settings for the I/O signals of the modules are stated in the system description for the excom I/O system at www.turck.com.

Example: AIH40 1H

- In the PROFIBUS GSD file import I/O settings window, select the AIH40 1H module in the left sidebar.
- Click **Customize input** under **Manual configuration** to manually configure the module.

🕎 PROFIBUS GSD file import -I/O settings

AI40	^	Selected module			
AI41		AIH40 1H			
AI43					
AIH40		Input area	Output area		
AIH40 1H		12 Bytes	0 Bytes 🗸		
AIH40 4H					
AIH40 8H		DP-V1 data types			
AIH41		If supported by the slave GSD	-file DP-V1 data types are used		
AIH41 1H		per default			
AIH41 4H		Apply DP-	V1 data types		
AIH41 8H					
AO40		Standard conversions			
AOH40		Define rules to map numbers of	of bytes/words defined in GSD-		
AOH40 1H		file into specified data type			
AOH40 4H		CCD hate	CCD word		
AOH40 8H		GSD byte	GSD word		
DF20 F		~	~		
DF20 P		()	()		
DI40_					
D180		Apply standa	rd conversions		
D180 S					
DM80		Manual configuration			
DM80 8I		Customize input	Customize output		
DM80 S			555556555555		
DM80 S 8I	×	Delete			
<	>	Delete all channels of the sele	cted modules		
Select all Delete channels					
V All channels are already defined					
Some channels are already defined					
Help		< Back	Next > Cancel		

Fig. 10: Manually configuring an AIH40 1H

- Select 15 bits for channel 1 in the PROFIBUS GSD file import In area of AIH40 1H window at Input area. In this example, Bit 0...6 of Byte 0 and Bit 0...7 of Byte 1.
- ► The drop-down menu opens automatically. Select **UInt 16=>DInt**.

Byte 0 Bit 6 [15 Bits]	Byte, bit	
765432	10	
0 15X Bit Boo	lean	51
1 UInt 16=>D	Int	Š.
2 UInt 16=>D	Word	
4 Int 32=>Din	t C DL I	
5 Signed Int 1	6=>Dint	
6 00000		
8 00000		
9 00000		
10		

Fig. 11: Selecting **UInt 16=>DInt** in the drop-down menu

- Select Bit 7 of Byte 0 as the status bit.
- ► The drop-down menu opens automatically. Select **Bit Boolean** =>**Bool**.



Fig. 12: Selecting Bit Boolean =>Bool in the drop-down menu

• Configure the other three channels with the remaining bits following the same procedure. Click OK.



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The HART variable consists of Bytes 8...11.

- Select Byte 8...11 at Input area.
- ► The drop-down menu opens automatically. Select Real 32=>Real.

🚆 PROFIBUS GSD file import -In-area of AIH40 1H

Input area			Configured chan	nels	
	Byte, bit	Length	Name	Data type conversion	Features
7 6 5 4 3 2 1 0	0, 6	15 Bits	Input 1	UInt 16=>DInt	\sim
0	0, 7	1 Bit	Input 2	Bit Boolean=>Bool	S
1	2, 6	15 Bits	Input 3	UInt 16=>DInt	
2	2, 7	1 Bit	Input 4	Bit Boolean=>Bool	S
3	4, 6	15 Bits	Input 5	UInt 16=>DInt	
4	4. 7	1 Bit	Input 6	Bit Boolean=>Bool	S
5	6, 6	15 Bits	Input 7	UInt 16=>DInt	
6	6, 7	1 Bit	Input 8	Bit Boolean=>Bool	S
7	8, 7	32 Bits	Input 9	Real 32=>Real	S
8		I		I	
9					
10					
11					
_ _					

Fig. 13: AIH40 1H – all channels and HART variables are set

Example: AOH40

- ► In the **PROFIBUS GSD file import I/O settings** window, select the **AOH40** module in the left sidebar.
- Click **Customize output** under **Manual configuration** to manually configure the module.

AI40	^	Selected module	
AI41		AOH40	
AI43			
AIH40		Input area	Output area
AIH40 1H		0 Bytes	/ 8 Bytes
AIH40 4H			
AIH40 8H		DP-V1 data types	
		If supported by the slave G	SD-file DP-V1 data types are used
		per default	
		Apply	R.VI data turas
		нара с	DIVI data types
AIH41 0H		Chandred accounting	
		Define rules to man number	are of bytes/words defined in GSD-
		file into specified data type	e construction de linea in Clobe
AOH40 8H		GSD byte	GSD word
DE20 E			~
DF20 P		()	()
DI40			
DI80		Apply sta	indard conversions
DI80 S			
DM80		Manual configuration	
DM80 8I		Customize input	Customize output
DM80 S		Customize mpar	Customize output
DM80 S 8I	~	Delete	
<	>	Delete all channels of the	selected modules
Select all		Del	ete channels
All channels a	are already d	efined	
1 0			
Some channe	is are alread	y defined	

Fig. 14: Manually configuring AOH40



- Select 15 bits for channel 1 in the PROFIBUS GSD file import Out area of AOH40 window at Output area. In this example, Bit 0...6 of Byte 0 and Bit 0...7 of Byte 1.
- ► The drop-down menu opens automatically. Select **UInt 16=>DInt**.



Fig. 15: Selecting **UInt 16=>DInt** in the drop-down menu

• Configure the other channels with the remaining bits following the same procedure. Click OK.



Fig. 16: AOH40 – all channels are set

Example: DM80

- ► In the **PROFIBUS GSD file import I/O settings** window, select the **DM80** module in the left sidebar.
- Click Customize input or Customize output under Manual configuration to manually configure the module as required.

🖉 PROFIBUS GSD file	e import -	I/O settings	- 🗆 ×
AI40	•	Selected module	
AI41		DM80	
AI43			
AIH40		Input area	Output area
J AIH40 1H		1 Bytes	1 Bytes
AIH40 4H			
AIH40 8H		DP-V1 data types	
AIH41		If supported by the slave GSD	-file DP-V1 data types are used
AIH41 1H		per default	
AIH41 4H		Apply DP-	V1 data types
AIH41 8H			
AO40_		Standard conversions	
AOH40		Define rules to map numbers of	of bytes/words defined in GSD-
AOH40 1H		file into specified data type	
AOH40 4H		GSD byte	GSD word
AOH40 8H			
DF20 F			
DF20 P		()	()
DI40_			
D180		Apply standa	and conversions
D180 S		Manual and investiga	
DM80		Manual configuration	
DM80 81		Customize input	Customize output
Z 2000 2 01	> [*]	Delete	and and day
•		Delete all channels of the sele	ected modules
Select all		Delete	channels
✓ All channels are	already de	efined	
J Some channels	are alread	v defined	
V Joine channels	are areau		
Help		< Back	Next > Cancel

Fig. 17: Manually configuring DM80



- Select Bit 0 for channel 1.
- ▶ The drop-down menu opens automatically. Select 8X Bit Boolean.



Fig. 18: Selecting 8X Bit Boolean in the drop-down menu

• Each bit can be set as an individual channel. The DM80 S module is provided with an additional status bit for each channel.

🕮 PROFIBUS GSD file import -In-area of I	DM80				_		\times
Input area			Configured channels				
	Byte, bit	Length	Name	Data type conversion		Features	
7 6 5 4 3 2 1 0	0, 0	1 Bit	Input 1	Bit Boolean=>Bool		S	5
0	0, 1	1 Bit	Input 2	Bit Boolean=>Bool		S	
	0, 2	1 Bit	Input 3	Bit Boolean=>Bool		S	
	0, 3	1 Bit	Input 4	Bit Boolean=>Bool		S	
	0, 4	1 Bit	Input 5	Bit Boolean=>Bool		S	
	0, 5	1 Bit	Input 6	Bit Boolean=>Bool		S	
	0, 6	1 Bit	Input 7	Bit Boolean=>Bool		S	
	0, 7	1 Bit	Input 8	Bit Boolean=>Bool		S	
		I			I		- I

Fig. 19: DM80 – all channels are set

🖳 PROFIBUS GSD file import -I/O settings

Example: DO40

- In the PROFIBUS GSD file import I/O settings window, select the DO40_ module in the left sidebar.
- Click **Customize output** under **Manual configuration** to manually configure the module.

Selected module AIH40 8H ٨ DO40 AIH41 AIH41 1H Input area Output area AIH41 4H 0 Bytes 1 Bytes AIH41 8H AO40 DP-V1 data types AOH40 If supported by the slave GSD-file DP-V1 data types are used AOH40 1H per default AOH40 4H AOH40 8H DF20 F DF20 P Standard conversions Define rules to map numbers of bytes/words defined in GSD-DI40_ file into specified data type D180 DI80 S GSD byte GSD word 🗸 DM80 \sim \sim DM80 8I (...) (...) DM80 S DM80 S 8I Apply standard conversions DO40 DO60R Manual configuration DO80 Empty slot Customize output **GDP** GDP C Delete < | > Delete all channels of the selected modules Select all All channels are already defined Some channels are already defined < Back Help Next > Cancel

Fig. 20: Manually configuring DO40



- Select Bit 0...3.
- The drop-down menu opens automatically. Select **4X Bit Boolean**.





⇒ Each bit can be set as an individual channel.

🚆 PROFIBUS GSD file import -Out-area of DO40_

- 🗆 🛛

	Output area			Configured chann	nels	
		Byte, bit	Length	Name	Data type conversion	Features
	7 6 5 4 3 2 1 0	0, 0	1 Bit	Output 1	Bit Boolean=>Bool	S
0		0, 1	1 Bit	Output 2	Bit Boolean=>Bool	S
		0, 2	1 Bit	Output 3	Bit Boolean=>Bool	S
		0, 3	1 Bit	Output 4	Bit Boolean=>Bool	S

Fig. 22: DO40 – all channels are set

4.3.2 GSD signals – setting diagnostics

- Select ChannelDiagCommon in the left sidebar in PROFIBUS GSD file import Diagnostics settings window at excom (1_6_4).
- Tick Enable diagnostics, Use identifier area for module diagnostics and Map device related diagnostics to module diagnostics on the right.
- If the Diagnostics pattern confirmation/edit appears, use the default settings and click OK.

🕎 PROFIBUS GSD file import -Diagnostics settings

excom (1_6_4)	~ 6	☐ Enable diagnostics
······		Map device related diagnostics to module
		Default values for first time assigns
AI40_, Udiag. channel(s)		Erec Marcine
ChannelDiagCommon		Error/ warning
		onne
Identifier		Alam/Event
Al41, Odiag, channel(s)		
		none orevent orevent orevent
		Severity
		none Olow Omedium Ohigh
AI43, Udiag. channel(s)		
ChannelDiagCommon		Number of diagnostic
	×	channels Open GSD viewer

Fig. 23: PROFIBUS GSD file import – Diagnostics settings



- In the PROFIBUS GSD file import Diagnostics settings window, select the module in the left sidebar.
- Under the required module select (here: AIH40 1H) ChannelDiagCommon.
- ➡ The different diagnostics data is shown in the **Text** column. The diagnostics are assigned to a variable in the **Status bit** column.

	1005 050 me import -biagi	lostics settings					_		^
÷	AI43, Odiag, channel(s)			•	Enable	e diagnostics 🔽 🛛	e identifier are	a for	
Ť					Map d	evice related diagnos	stics to module		
	.DeviceRelatedMapped				✓ diagno	ostics			
					Default	values for first time ass	igns		
÷	AIH40 1H, 9diag. channel(s)				Error/	Naming			
						ne 💿 warnii	ng 🔵 erro	r	
	.ChannelDiagSpecific				Alam	Event			
	.DeviceRelatedMapped								
	.Identifier					ie Oevenit	C alan	"	
÷	AIH40 4H, 0diag. channel(s)				Severi	ty	-	-	
						ne 🔘 Iow	medium	🔾 high	
	.DeviceRelatedMapped								
	.Identifier				9 Nu	mber of diagnostic	Open G	CD viewer	
<u> </u>	AIH40 8H. Odiag. channel(s)			~	└── ch	annels	Open G	SD viewei	
ID	Text	Statusbit	Error/Warning	Alar	m/Event	Severity			1
1	Short circuit	Device Specific 01	warning			medium			
2	Undervoltage	pope	none	non		neulum			
2	Overvoltage	none	none	non	с •	none			
3 4	Overvoilage	none	none	non	-	none			
4 E	Overload	none	none	non	-	none			
о С	Uvertemperature	none Deutes Casette 02	none	non	e	none			
5	Line break	DeviceSpecificU2	warning	alan	n	medium			
/	Upper limit value excee	DeviceSpecific03	warning	alan	m	medium			
8	Lower limit value excee	DeviceSpecific04	warning	alan	m	medium			
9	Error	none	none	non	e	none			
16	Line error	none	none	non	e	none			
17	Error 17	none	none	non	e	none			
	Internal address conflict	none	none	non	e	none			
18	internal address connict								
18 19	Unknown module confi	none	none	non	e	none			
18 19 20	Unknown module dete	none none	none	non non	e e	none			
18 19 20 21	Unknown module confi Unknown module dete Ext. power supply missing	none none none	none none none	non non	e e e	none none none			
18 19 20 21 22	Unknown module confi Unknown module dete Ext. power supply missing Parameter inconsistent	none none none none	none none none none	non non non	e e e	none none none			
18 19 20 21 22 23	Unknown module confi Unknown module dete Ext. power supply missing Parameter inconsistent Error 23	none none none none none	none none none none none	non non non non	e e e e	none none none none			

Fig. 24: AIH40 1H – setting diagnostics

1.....

To set the diagnostics settings for all modules:

- ► Right-click the configured **ChannelDiagCommon**.
- Click Apply to all.

030	PROFIBUS	GSD	file import	-Diagnostics settings	
-----	----------	-----	-------------	-----------------------	--

	^	Enable diagnostics Use identifier area for module diagnostics
		Map device related diagnostics to module
		L diagnostics
		Default values for first time assigns
		Error/Warning
		○ none
AIH40 1H, 9diag. channel(s)		Alam/Event
Char Apply to all		none event alarm
		Severity
		● none ○ low ○ medium ○ high
⊢ AIH40 4H, 0diag. channel(s)		
		Number of diagnostic
.DeviceRelatedMapped	×	channels Open GSD viewer

Fig. 25: Applying the diagnostics settings to all modules

- ⇒ The diagnostics settings are applied to all modules.
- In the system description for the excom I/O system check which diagnostics information is transferred.



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4.4 Adding excom I/O modules to the AC 800M

Inserting the GSD configuration file in the AC 800M

- Right-click the PROFIBUS controller (here: NEWTON Cl854) in ABB Compact Control Builder AC 800M.
- ⇒ The Insert UNIT for CI854 window opens.
- ► Right-click excom (1_6_4).
- Click Insert.

🕵 Insert Unit for Cl854

Connected Libraries	Properties
Libraries in Project	Description:
GI801	excom (1_6_4): Remote I/O System
S800CI840CI854HwLib 1.5-2 Turck_excom 1.0-0	Position: 5 ~
**** excom (1_6_4)	Enable redundant mode
	Position:
	Name:
	Information
	Insert Close Help

Fig. 26: Insert UNIT for CI854 window

• Confirm the query window with **Yes**.



Fig. 27: Query window - Insert Unit

- Select the modules fitted in the rack in the left sidebar.
- Set up the excom station according to the physical setup. Note the corresponding position on the rack (here: GDP C Position: 0).
- Click Insert.

Image: Second state	×
Image: Milling DI80 S Image: Milling DM80 Image: Milling DM80 S Image: Milling DM80 S SI Image: Milling DM80 S Image: Milling DM8	
Image: Source of the second	

Fig. 28: Example: GDP C – position 0



4.5 Setting excom I/O module parameters

- In Control Builder AC 800M at Controllers → excom (1_6_4) select the module (here: GDP C).
- ▶ Right-click the module.
- Click Editor.
- ⇒ The Hardware PLC_1.1.5.0 window opens.



- Click the **Settings** tab.
- ⇒ The different parameters can be viewed in the **Parameter** column. The values of the parameters can be set at **Value**.

🗱 Hardware - PLC_1.1.5.0 GDP	PC					_		\times
Editor Edit View Insert To	ools Window Help							
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Parameter	Value	Туре	Unit	Min	Max	Comment		^
grid frequency	50Hz	enum						
analog data format	status MSB	enum						
backplane	MT18 (16 I/O modules)	enum						
redundancy mode	off	enum						
power supply	single	enum						
cyclic data	select 0	enum						
HCIR active	off	enum						
HCIR WCBC factor	base x 1	enum						
HCIR WCBC base (x 100ms)	5	dint		0	63			
address offset	disable	enum						
address offset value	0	dint		0	124			
CAN redundancy	on	enum						
SF2	select 0	enum						
SF3	select 0	enum						
								~
Settings Connection	ıs <u>λ</u> Unit Status /			<				>
						Row 1	, Col 1	

Fig. 30: Example setting of gateway parameters



4.6 Configuring I/O data

- ► Choose Turck_Test → Applications.
- ▶ Right-click **Diagrams** at **Application_1** (PLC_1.Normal).
- Click New Diagram....

🛍 Compact Control Builder AC 800M - Turck_Test (Offline)



Fig. 31: Diagrams – New Diagram...

• Choose the Variables tab.

r

In the **Data Type** column set the data type that was selected at the GSD signal import.

Diagram - Application_1.Turck_Test					
Editor Edit View Insert Tools Window Help					
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	Name	Data Type	Start Attribute	Attributes	
1	AIH40_CH1	dint	retain	hidden	
2	AIH40_CH2	dint	retain	hidden	
3	AIH40_CH3	dint	retain	hidden	
4	AIH40_CH4	dint	retain	hidden	
5	DM80_CH1	bool	retain	hidden	
6	DM80_CH2	bool	retain	hidden	
7	DM80_CH3	bool	retain	hidden	
8	DM80_CH4	bool	retain	hidden	
9					
10					
11					
12					
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15					
16					
17					
18					
19					
20					
21					
22					
Variables Communication Variables Signals Function					

Fig. 32: Variables – setting a data type



Module editor

- In ABB Compact Control Builder AC 800M at Controllers → excom (1_6_4) select the module (here: AIH40 1H).
- ▶ Right-click the module.
- Click Editor.
- ⇒ The Hardware PLC_1.1.5.0 window opens.
- Click the **Connections** tab.
- Select the required variable via the **Insert Path from Tree** icon and assign it to the channel.

WW Hardware - PLC_1.1.5.3 AIH40 1H				
Editor Edit View Insert Tools Window Help				
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Channel	Name	Туре	Signal	Variable
IW1.5.3.0	Input 1	DintlO		
IX1.5.3.1	Input 2	BoollO		E- 🗐 Application_1
IW1.5.3.2	Input 3	DintlO		🕀 🖅 Diagram1
IX1.5.3.3	Input 4	BoollO		⊡ Iningram2
IW1.5.3.4	Input 5	DintlO		
IX1.5.3.5	Input 6	BoollO		AIH40_CH1
IW1.5.3.6	Input 7	DintlO		— 🧻 AIH40_CH2
IX1.5.3.7	Input 8	BoollO		AIH40_CH3
IW1.5.3.8	Input 9	ReallO		
IW1.5.3.9	UnitStatus	HwStatus		
				dint Hide non-matching
< > ∖ Setti	ngs <mark>) Conne</mark>	ections P	roperties 入 Status 入	Unit Status /

Fig. 33: Assigning a variable to the channel

4.7 Loading the current configuration into the AC 800M

After the excom system is configured and parameterized, the current configuration must be loaded in the system controller. The system outputs an error message if the set variables are not used in the application.

Click the **Download Project and Go Online** icon in the menu bar.

🕵 Compact Control Builder AC 800M - Turck_Test (Offline))
File Edit View Tools Help	
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Fig. 34: Menu bar – XY	
⇒ The Compact Control Builder AC 800M - Turck_Test (Online) window op	oens.
AGT	
Compact Control Builder AC 800M - Turck_Test (Online)	
File Edit View Tools Help	
🖃 ····· 💱 Turck_Test	
🛓 🔐 Libraries	
🛓 💷 Applications	
🚊 进 Controllers	
🖕 📲 PLC_1 (192.168.110.10)	
🗄 🔤 Connected Applications	
🗄 🔟 Connected Libraries	
Hardware AC 800M	
5 excom (1_6_4)	
🗱 2 DO40_	
1 AOH40	
🛓 🔤 Tasks	
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Fig. 35: Compact Control Builder AC 800N - Turck_Test (Online) window



4.8 Online mode

After the download, the view switches to Online mode.

In Online mode, the diagnostics information and read data can be read in the modules used.

In this example Input 1, Input 3, Input 5 and Input 7 represent the measured input current. Input 1 and Input 3 also represent the substitute value. Input 9 represents the HART variable.

Image: With Hardware - PLC_1.1.5.3 AIH40 1H — — >						×	
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Channel	Name	Channel Value	Forced	Variable Value	Signal	Variable	^
IW1.5.3.0	Input 1	3600		3600	AlH40_Channel_1	Application_1.Turck_Test.AIH40_CH1	
IX1.5.3.1	Input 2			T]
IW1.5.3.2	Input 3	3600		3600	AlH40_Channel_2	Application_1.Turck_Test.AlH40_CH2	
IX1.5.3.3	Input 4						
IW1.5.3.4	Input 5	5174		5174	AlH40_Channel_3	Application_1.Turck_Test.AlH40_CH3	
IX1.5.3.5	Input 6]
IW1.5.3.6	Input 7	6924		6924	AIH40_Channel_4	Application_1.Turck_Test.AlH40_CH4	1
IX1.5.3.7	Input 8						1
IW1.5.3.8	Input 9	7.3		7.3	HART_Variable_1	Application_1.Turck_Test.AlH40_HV1	1
< > \Sett	ings ∖ C	onnections λ Pr	operties	Status Unit	Status /	<	> .

Fig. 36: Reading out diagnostics information and data in Online mode

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205



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