Profibus DP Interface User Guide





Caution

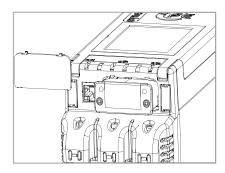
This option module is specifically designed to be used with the Synergy range of soft-start products and is intended for professional incorporation into complete equipment or systems. If installed incorrectly it may present a safety hazard. Before commencing installation and commissioning, the user should ensure they are fully familiar with the Synergy unit, and in particular have read the important safety information and warnings contained in the Synergy User Guide.

Overview

The Profibus DP Interface is intended to be installed in the Synergy option slot, and allows the Synergy to be connected to an Profibus DP network. The interface offers the following functionality:-

Installation

- Ensure all power is removed from the Synergy unit prior to installing the option module
- Remove the blanking plate from the option module slot
- Carefully slide the option module into the slot, ensuring that the location tabs are correctly aligned. DO NOT USE EXCESSIVE FORCE
- Tighten the two screws on the option module to secure



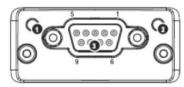
Synergy configuration

Synergy will automatically configure when the option module is installed. Correct installation can be confirmed from the touch screen interface:

Device >> Networks >> Profibus

Front panel

	Item
1	Operation mode
2	Status
	Profibus network
3	connector



Operation mode

State	Indication			
Off	No power or not inserted			
Green	Online data exchange			
Green, flashing	Network OK, no data exchange			
Single Red flash	Parameter error			
Double Red flash	Network error			
Status				
State	Indication			
Off	No power			
Green	Initialised			
Green, flashing	Initialised, Self testing			
Red	Error			

Profibus DP Connector Pinout

Pin	Function
1	N/C
2	N/C
3	B line Positive RxD/TxD, RS485
4	RTS
5	Bus Ground (GND)
6	+5V Bus output termination power
7	N/C
8	A Line negative RxD/TxD, RS485
9	N/C

GSD File

A GSD file for the interface is available from www.fairford.com

PLC Configuration

Configuration of the PLC varies between different systems. When configuring the Profibus network in the PLC, it is important to ensure that the output data sent from the PLC to the drive is in a lower slot number than the input data from the drive back to the PLC. Refer to information on the specific PLC system in use for further guidance

Synergy Profibus DP control

The current Profibus interface for this device is specified in the sgy1000.gsd file. This contains the configuration required to run the synchronous standard telegram 1 allowing start/stop and fault monitoring of the Synergy unit.

The standard telegram consists of two 16 bit set-point words. The first being the drive control word.

This has the following functionality.

Output Word 1 (STW1)								
Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	
Fault	-	Unfreeze	Ramp	Enable	Coast	-	Start	
Reset		Ramp	On	Operation	Stop			
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	
-	-	-	-	-	Network	-	-	
					Connect			

The second Probifbus Standard telegram 1 set-point word (NSOLL_A) is not implemented in this version so will not respond to set values.

The response telegram also consists of two words, this time values generated by the Synergy unit in response to the set-points. The first word holds status information and has the following meaning.

Input Word 1 (ZSW1)								
Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	
-	Switch	Quick	Same	Fault	Operation	Switched	Ready	
	on	Stop	as Bit 0	(Tripped)	Enabled	On	Switch	
	Inhibitied	Disabled					On	
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	
Bit 1	-	-	-	-	-	Network	-	
						Connected		

As with the Outputs the second Probifbus Standard telegram 1 value word (NIST_A) is not implemented in this version so should be ignored.