DEIF

-power in control

CE

APPLICATION NOTES



Protection and Power Management, PPM-3
Externally controlled BTB (Bus Tie Breaker)

- Application description
- Functional description
- Wiring
- I/O lists
- Basic setup

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Document no.: 4189340648A
SW version: 3.04.x

1. General information

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3. Application overview

1. General information

1.1 Warnings, legal information and safety

1.1.1 Warnings and notes

Throughout this document, a number of warnings and notes with helpful user information will be presented. To ensure that these are noticed, they will be highlighted as follows in order to separate them from the general text.

Warnings

Warnings indicate a potentially dangerous situation, which could result in death, personal injury or damaged equipment, if certain guidelines are not followed.

Notes

Notes provide general information, which will be helpful for the reader to bear in mind.

1.1.2 Legal information and disclaimer

DEIF takes no responsibility for installation or operation of the generator set. If there is any doubt about how to install or operate the engine/generator controlled by the Multi-line 2 unit, the company responsible for the installation or the operation of the set must be contacted.

The Multi-line 2 unit is not to be opened by unauthorised personnel. If opened anyway, the warranty will be lost.

Disclaimer

DEIF A/S reserves the right to change any of the contents of this document without prior notice.

1.1.3 Safety issues

Installing and operating the Multi-line 2 unit may imply work with dangerous currents and voltages. Therefore, the installation should only be carried out by authorised personnel who understand the risks involved in working with live electrical equipment.

Be aware of the hazardous live currents and voltages. Do not touch any AC measurement inputs as this could lead to injury or death.

1.1.4 Electrostatic discharge awareness

Sufficient care must be taken to protect the terminal against static discharges during the installation. Once the unit is installed and connected, these precautions are no longer necessary.

1.1.5 Factory settings

The Multi-line 2 unit is delivered from factory with certain factory settings. These are based on average values and are not necessarily the correct settings for matching the engine/generator set in question. Precautions must be taken to check the settings before running the engine/generator set.

1.2 About the Application Notes

1.2.1 General purpose

This document includes application notes for DEIF's Multi-line 2 unit. It mainly includes examples of different applications suitable for the unit.

For functional descriptions, the procedure for parameter setup, parameter lists etc., please see the Designer's Reference Handbook.

The general purpose of the application notes is to offer the designer information about suitable applications for the Multi-line 2 unit.

Please make sure to read this document before starting to work with the Multi-line 2 unit and the gen-set to be controlled. Failure to do this could result in human injury or damage to the equipment.

1.2.2 Intended users

The Application Notes are mainly intended for the person responsible for designing Multi-line 2 systems. In most cases, this would be a panel builder designer. Naturally, other users might also find useful information in this document.

1.2.3 Contents and overall structure

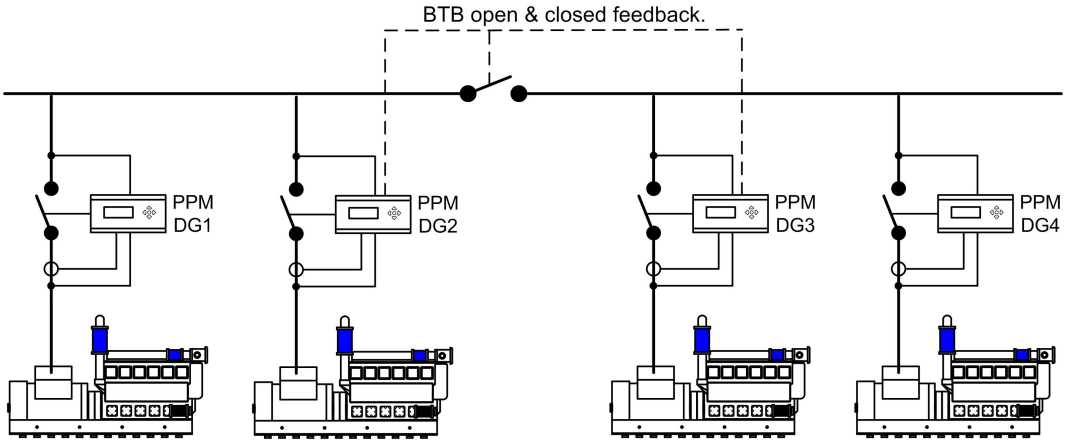
This document is divided into chapters, and in order to make the structure simple and easy to use, each chapter will begin from the top of a new page.

2. General overview

2.1 Required wiring and setup

2.1.1 What is required

This document describes the wiring and setup required to install a PPM-3 system with an externally controlled BTB (Bus Tie Breaker).



For further information regarding the terminal connections and adjustment of essential parameters, please refer to the installation instructions and/or quick start guide.

In order to synchronise the BTB, the system must be switched to SWBD (Switchboard) mode, and the speed control and closing of the breaker must be done manually.

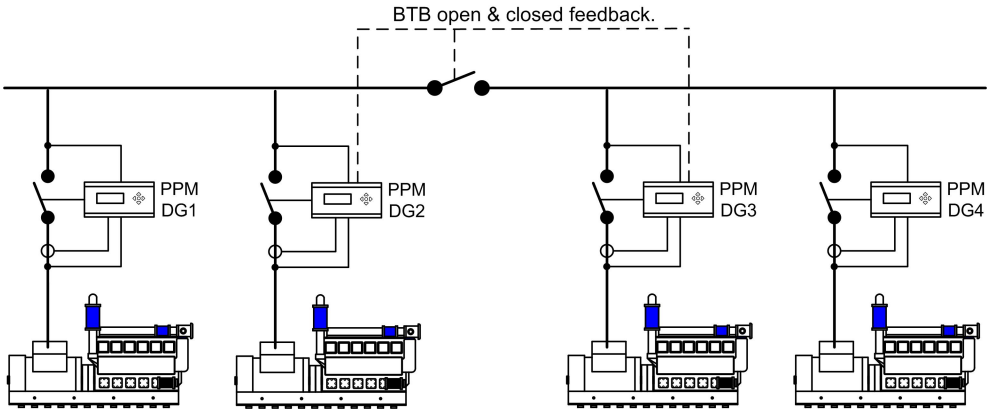
It is recommended to use a CSQ-3 (Check synchronising relay) or HAS (Paralleling relay) in order to check the synchronising of the two busbars when closing the BTB.

For further information about installation and use of CSQ-3 and HAS, please refer to documentation available on the DEIF homepage www.deif.com.

3. Application overview

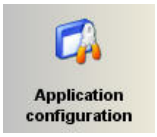
3.1 BTB

3.1.1 Setup

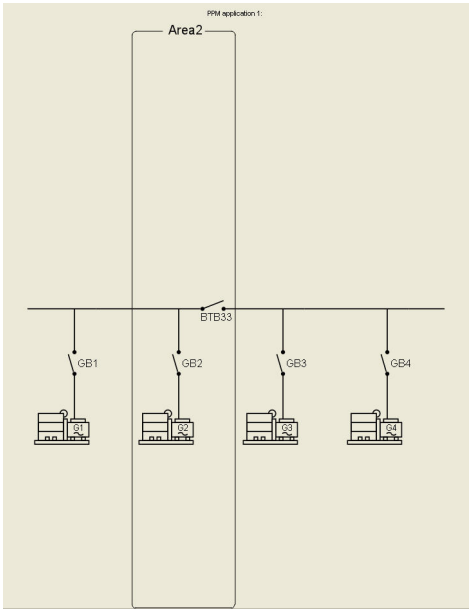


1 Wire the digital breaker feedback up to a unit on both sides of the BTB unit. Both open and closed feedback should be connected. In this example, digital inputs 24 and 25 are used.

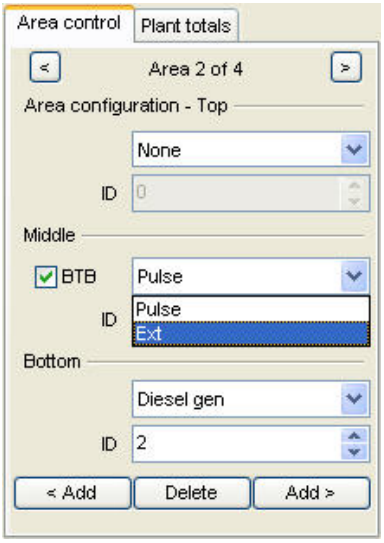
2 Connect to a unit and select Application configuration.



3 Draw the application.



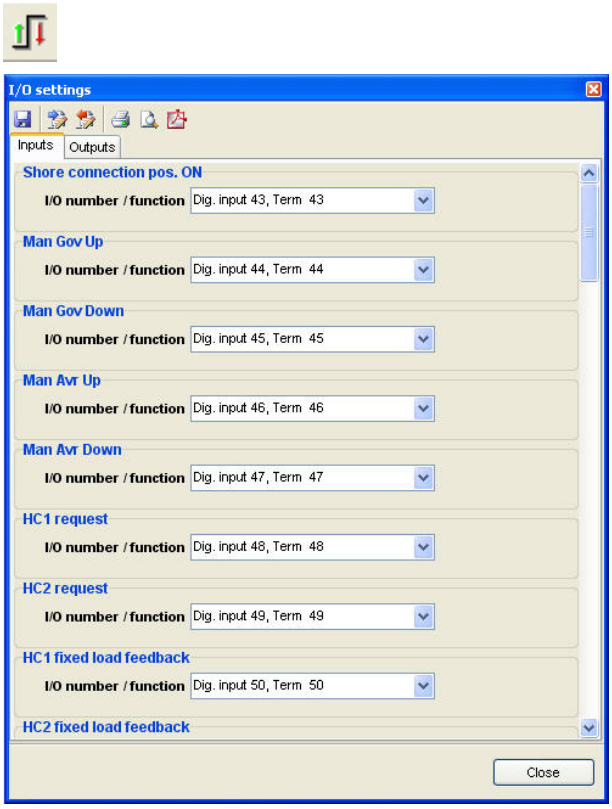
4 In the area where the BTB is installed, select Ext (Externally controlled).



5 Set the unit IDs and broadcast the application.

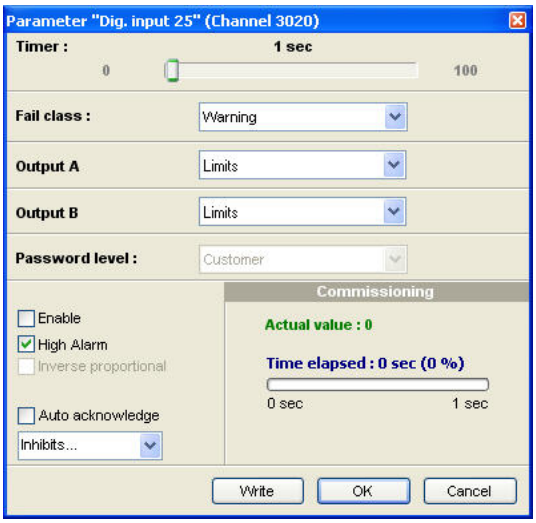
The following should be programmed in the two units with the feedback connected.

6 Select two digital inputs for breaker feedback. Check that the selected inputs are not configured under input/output settings.



7 Download parameters and select the parameters for the selected inputs. In this example, inputs 24 and 25 are used.

8 Set the Output A and Output B to Limits in order to use the inputs in M-Logic.



9 Select M-Logic and setup the digital inputs for breaker feedback.