

Control-Unit

Supplementary operating instructions

Series: Profibus-Module

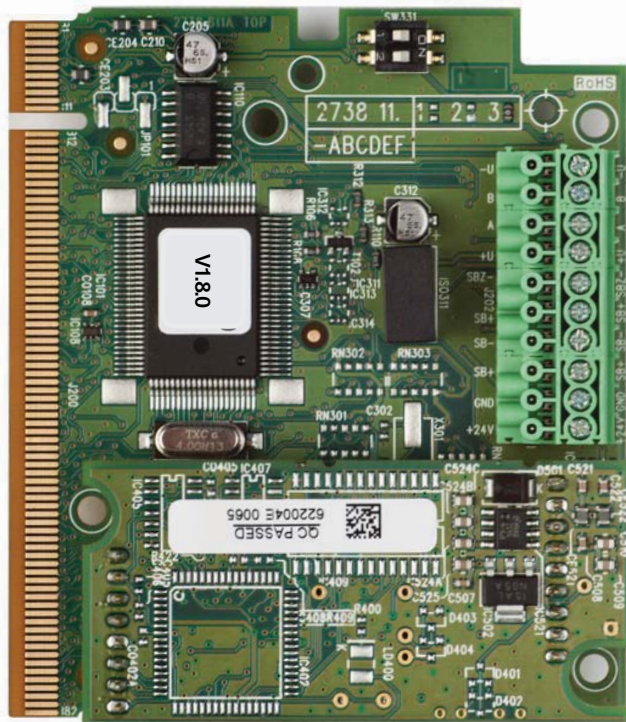


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1 Manual introduction

1.1 Preface

This manual contains important information for reliable, proper and efficient operation. Compliance with the operating instructions is of vital importance to ensure reliability and a long service life of the product and to avoid any risks.

The first chapters contain information about this manual and safety in general. The following chapters provide information about normal use, installation, maintenance and repairs of the product. The annex contains the declaration(s) of conformity.

- Make yourself familiar with the content.
- Accurately follow the directions and instructions.
- Never change the sequence of the operations to be carried out.
- Keep this manual or a copy of it together with the logbook in a fixed place near the product which can be accessed by all personnel.



READ THE (SUPPLEMENTARY) DOCUMENTATION
Read the installation and operating instructions.

1.2 Icons and symbols

In this manual and in all accompanying documentation the following icons and symbols are used.



WARNING
Danger of electric Voltage. Safety sign according to IEC 417 - 5036



WARNING
Operations or procedures, if carried out without caution, may cause personal injury or damage to the product.
General hazard sign according to ISO 7000-0434



ATTENTION
Is used to introduce safety instructions whose non-observance may lead to damage to the product and its functions.



ENVIRONMENTAL INSTRUCTION
Remarks with respect to the environment.

2 Identification, service and technical support

2.1 Identification, service and technical support

The system is identified based on the text "Profibus-Module" as given on the front of the system.

Table 1: Control-Unit

Indication	Meaning
Profibus-Module	Type of Control-Unit

The following address data are available for service and technical support:

Table 2: Address service department

DP-Pumps Kalkovenweg 13 2401 LJ Alphen a/d Rijn The Netherlands	Tel: +31 172 488388 Fax: +31 172 468930 Internet: www.dp-pumps.com E-mail: dp@dp-pumps.com
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2.2 Supplementary documentation



ATTENTION

This manual is valid from software version V1.6.1. Software version V1.6.1 only works in combination with a megacontrol with the Firmware version 1.9.0 or higher.

Apart from this manual, the documentation given below is also available:

Table 3: supplementary documentation

Document	Date/version	Code
General terms of delivery	10-1998	119 / 1998
Documentation		

See also: www.dp-pumps.com

3 Warranty

3.1 Terms of warranty

The warranty period is settled by the terms of your contract or at least by the general terms and conditions of sales.



ATTENTION

Modifications or alterations of the product supplied are only permitted after consultation with the manufacturer. Original spare parts and accessories authorized by the manufacturer ensure safety. The use of other parts can invalidate any liability of the manufacturer for consequential damage.



ATTENTION

The warranty relating to the operating reliability and safety of the product supplied is only valid if the product is used in accordance with its designated use as described in the following sections of this manual. The limits stated in the data sheet must not be exceeded under any circumstances.

The warranty becomes invalid if one or more of the points below occur.

- The buyer makes modifications himself.
- The buyer carries out repairs himself or has these carried out by a third party.
- The product has been handled or maintained improperly.
- The product has non original DP-Pumps spare parts fitted.

DP-Pumps repairs defects under warranty when:

- They are caused by flaws in the design, the material or the production.
- They are reported within the warranty period.

Other terms of warranty have been included in the general terms of delivery, which are available upon request.

4 Safety and environment

4.1 General

This DP-Pumps product has been developed using state-of-the-art technology and is manufactured with utmost care and is subject to continuous quality control.

DP-Pumps does not accept any liability for damage or injury caused by not following the directions and instructions in this manual or by carelessness during the installation, use or maintenance of the product.

Non-compliance with the safety instructions can jeopardize the safety of personnel, the environment and the product itself. Non-compliance with these safety instructions will also lead to forfeiture of any and all rights to claims for damages.

Non-compliance can result in:

- failure of important pump/system functions,
- failure of prescribed maintenance or service,
- injury caused by electrical, mechanical and chemical effects,
- leakage to the environment of hazardous substances,
- explosions.

Depending on the application, extra safety measures may be required. Contact DP-Pumps if a potential danger arises during use.



ATTENTION

The owner of the product is responsible for compliance with the local safety regulations and internal company guidelines.



ATTENTION

Not only must the general safety instructions laid down in this chapter on "Safety" be complied with, but also the safety instructions outlined under specific headings.

4.2 Users

All personnel involved in the operation, maintenance, inspection and installation of the product must be fully qualified to carry out the work involved and be aware of all applicable responsibilities, authorisations and supervisions. If the personnel in question is not in

possession of the required know-how, appropriate training and instruction must be provided. The operator may require the manufacturer/supplier to provide sufficient training and/or instructions. The operator is responsible for ensuring that the contents of the operating instructions are fully understood by the responsible personnel.

4.3 Safety provisions

The product has been designed with the greatest possible care. Original parts and accessories meet the safety regulations. Modifications in the construction or the use of non-original parts may lead to a safety risk.



ATTENTION

Make sure that the product operates within its working range. Only then the product performance is guaranteed.

4.3.1 Labels on the product

The icons, warnings and instructions applied to the product are part of the safety provisions. The labels may not be removed or covered. Labels must remain legible during the entire life of the product. Replace damaged labels immediately.

4.4 Safety precautions

4.4.1 During normal use

- Contact the local electricity company for questions about the power supply.
- Shield parts that can become hot in such a way, that direct contact is not possible.
- Always close the switch box.

4.4.2 During installation, maintenance and repair

Only authorised personnel may install, maintain and inspect the system and repair electrical components. Observe the local safety regulations.

4.5 Environmental aspects

4.5.1 General

This product of DP-Pumps is designed to function in an environmentally friendly way during their entire life.



ENVIRONMENTAL INSTRUCTION

Always act according to the laws, by-laws regulations and instructions with respect to health, safety and the environment.

4.5.2 Dismantling

Dismantle the product and dispose of it in an environmentally friendly way. The owner is responsible for this.



ENVIRONMENTAL INSTRUCTION

Ask at the local government about the re-use or the environmentally friendly processing of discarded materials.



ENVIRONMENTAL INSTRUCTION

All components of the Profibus-Module are manufactured in accordance with RoHS II directive 2011/65/EU.

5 Introduction

5.1 General

This document describes the settings and an example for the Profibus-Module connected to a megacontrol. See the enclosed manual Profibus-Module booster advanced control for detailed information.

If the Profibus-Module is properly connected, the megacontrol recognize the module automatically. This can be checked in menu 4-1. Line "Profibus information" should be visible.

The following parameters can be set:
 3-15-1-1 slave address 1 up to 255 Default 126

Table 4: Standard settings:

Communication protocol	Profibus DP (RS485)
Device type	Slave 1 to 255
GSD file	0AF0.GSD



ATTENTION
 If the Profibus-Module is the last module in the bus, set both DIP switches of the terminating resistor on ON.

OFF ON

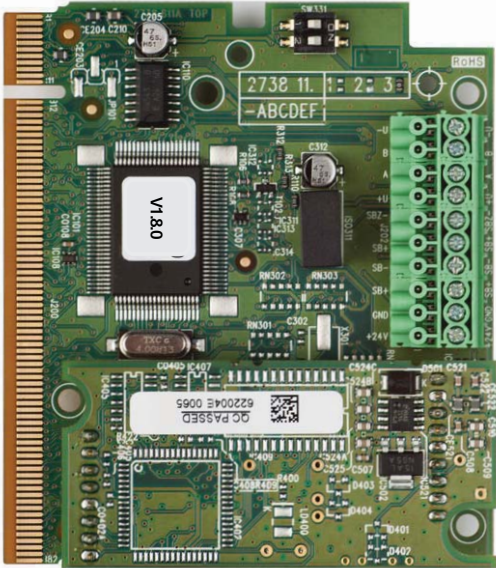


Figure 1: Profibus-Module terminator resistor set

6 Transport

6.1 Transport and storage

1. Transport the control unit in the position as indicated on the pallet or packaging.
2. Check if the control unit is stable.
3. Observe the instructions on the packaging (if present).



ATTENTION

Store the control unit in a dry and dust-free place.

7 Installation

7.1 General



WARNING
 Make sure that the system is not connected to the mains and secured against reconnection before the Profibus-Module - connection is to install or remove.



WARNING
 Power supply is not protected against polarity!



ATTENTION
 If the Profibus-Module is the last module in the bus, set both DIP switches of the terminating resistor on ON. See figure 1 Profibus-Module terminator resistor set

7.2 Installation

The Profibus-Module has to be connected or removed only when the power is off. The Profibus-Module is housed in a metal casing which is equipped with a mounting for 35 mm DIN rail. With this mounting the Profibus-Module can be attached to an existing rail.

For high frequency shielding only shielded cables for Profibus-Module have to be used. The installation has to be done in EMC compliance. A minimum distance of 200 mm from electrical lines is recommended. No different voltage in one cable feed (e.g. 230 V and 24 V alarm reset). The local regulations are observed.



WARNING
 The terminators are only in function when the module is energized.

7.3 Assignment terminal

The Profibus-Module is provided with a 10-pin terminal connection (J202).

The terminals are described as follow:
 Table 5: Assignment terminal Profibus-Module

Terminal	Signal
1	+24 V
2	GND
3	SB+
4	SB-
5	SB+
6	SBZ-
7	+U
8	A
9	B
10	-U

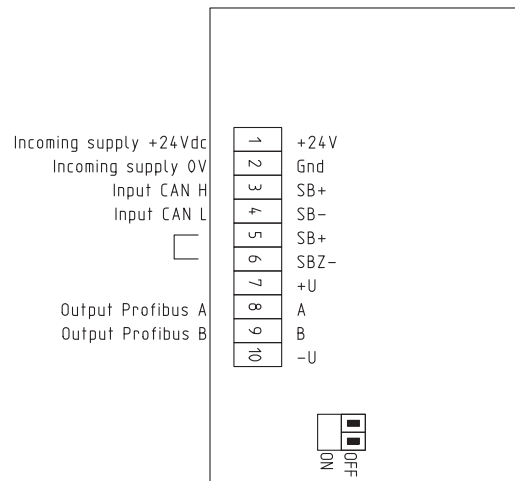


Figure 2: Profibus connection

8 Parameter list

8.1 Parameter list 'read'

Table 6: Read

Parameter	Name	Hex Address	1 or 2 register (Byte)	Value/Unit
	Status BC IO Board	2000	1	
	Message 1 (Bit 0 .. 15)	2001	2	
	Message 2 (Bit 0 .. 15)	2002	2	
	Message 3 (Bit 0 .. 15)	2003	2	
	Message 4 (Bit 0 .. 15)	2004	2	
	Message 5 (Bit 0 .. 15)	2005	2	
	Message 6 (Bit 0 .. 15)	2006	2	
	Message 7 (Bit 0 .. 15)	2007	2	
	Message 8 (Bit 0 .. 15)	2008	2	
	Message 9 (Bit 0 .. 15)	20F0	2	
	Message 10 (Bit 0 .. 15)	20F1	2	
	RESERVED for more warnings	2	
	RESERVED for more warnings	20FF	2	
1-1-1	System pressure	2009	1	kPa
1-1-2	System load	200a	1	
1-1-3	RDP Switch	200b	1	0 = inactive 1 = active
1-1-4	Inlet pressure	200c	1	kPa
1-1-5	Level content in %	200d	1	%
1-1-6	Level height	200e	1	cm
1-1-7	Ambient temp. (WSD)	200f	1	
1-1-9.2	Position suppl. valve	2010	1	ON/OFF
1-1-9.1	Position suppl. valve	2011	1	%
1-1-12	Used Set point	2012	1	kPa
1-1-13	NTC Temperature	2013	1	
1-3-1	Act. runtime Op hours	2014	2	seconds
1-3-2	Time to service	2016	2	
1-3-3	Act. Minimum Runtime	2018	1	seconds
3-3-1	Number of pumps	2019	1	
	Amount working pumps	201a	1	Bit 0 = P1 ... Bit 5 = P6
	Therm. Pump Error-input	201b	1	Bit 0 = P1 ... Bit 5 = P6
	Common digital inputs	201c	1	Bit0=digitalInputs->thermalFC;// "F" Bit1=digitalInputs->thermalValve;// "V" Bit2 = digitalInputs->externalOff;// "O" Bit3 = digitalInputs->fireAlarm;// "A" Bit4 = digitalInputs->dryRun;// "R" Bit5 = digitalInputs->input[0]// "I1" Bit6 = digitalInputs->input[1]// "I2" Bit7 = digitalInputs->input[2]// "I3"



Parameter	Name	Hex Address	1 or 2 register (Byte)	Value/Unit
	Pump load Pump 1	201d	1	%
	Operating hours Pump 1	201e	2	seconds
	Operating hours after Service Pump 1	2020	2	seconds
	Pump starts Pump 1	2022	2	
	Failure counter Pump 1	2024	2	
	Pump status Pump 1	2026	1	Bit0=Auto Bit1=Manual Bit2=Off Bit3=Pump is OK Bit4=Pump is running Bit5=Thermal failure Bit6=FC failure
	Pump load Pump 2	2027	1	%
	Operating hours Pump 2	2028	2	seconds
	Operating hours after Service Pump 2	202a	2	seconds
	Pump starts Pump 2	202c	2	
	Failure counter Pump 2	202e	2	
	Pump status Pump 2	2030	1	Bit0=Auto Bit1=Manual Bit2=Off Bit3=Pump is OK Bit4=Pump is running Bit5=Thermal failure Bit6=FC failure
	Pump load Pump 3	2031	1	%
	Operating hours Pump 3	2032	2	seconds
	Operating hours after Service Pump 3	2034	2	seconds
	Pump starts Pump 3	2036	2	
	Failure counter Pump 3	2038	2	
	Pump status Pump 3	203a	1	Bit0=Auto Bit1=Manual Bit2=Off Bit3=Pump is OK Bit4=Pump is running Bit5=Thermal failure Bit6=FC failure
	Pump load Pump 4	203b	1	%
	Operating hours Pump 4	203c	2	seconds
	Operating hours after Service Pump 4	203e	2	seconds
	Pump starts Pump 4	2040	2	
	Failure counter Pump 4	2042	2	
	Pump status Pump 4	2044	1	Bit0=Auto Bit1=Manual Bit2=Off Bit3=Pump is OK Bit4=Pump is running Bit5=Thermal failure Bit6=FC failure
	Pump load Pump 5	2045	1	%
	Operating hours Pump 5	2046	2	seconds
	Operating hours after Service Pump 5	2048	2	seconds

Parameter	Name	Hex Address	1 or 2 register (Byte)	Value/Unit
	Pump starts Pump 5	204a	2	
	Failure counter Pump 5	204c	2	
	Pump status Pump 5	204e	1	Bit0=Auto Bit1=Manual Bit2=Off Bit3=Pump is OK Bit4=Pump is running Bit5=Thermal failure Bit6=FC failure
	Pump load Pump 6	204f	1	%
	Operating hours Pump 6	2050	2	seconds
	Operating hours after Service P6	2052	2	seconds
	Pump starts Pump 6	2054	2	
	Failure counter Pump 6	2056	2	
	Pump status Pump 6	2058	1	Bit0=Auto Bit1=Manual Bit2=Off Bit3=Pump is OK Bit4=Pump is running Bit5=Thermal failure Bit6=FC failure
4-2-2	IO FW-Version	2059	1	
4-2-3	IO FW-Revision	205a	2	
4-2-4	IO HW-Revision	205c	1	
4-3-2	HMI FW-Version	205d	1	
4-3-3	HMI FW-Revision	205e	2	
4-3-4	HMI HW-Revision	2060	1	
4-4-1	PB FW Version/4-5-1 MB FW Version	2061	1	
4-4-2	PB FW Revision/4-5-2 MB FW Revision	2026	2	
4-4-3	PB HW Revision/4-5-3 MB HW Revision	2064	1	
3-4-1-4-11-1	Level RW-pump Off	2065	1	% i.e. 90 %
3-4-1-4-11-2	Level RW-pump ON	2066	1	% i.e. 85 %
3-4-1-4-11-3	Level DW-valve open	2067	1	% i.e. 75 %
3-4-1-7-1	Rainwater nr of pumps	2068	1	Number of pumps 1/2
1-2-6-3-1	Rainwater pump 1 mode	2069	1	0=not active/1=active
1-2-6-3-3	Rainwater pump 1 Runtime	206A	2	seconds
1-2-6-3-4	Rainwater pump 1 starts	206C	2	Number of starts
1-2-6-3-2	Rainwater pump 1 state	206E	1	0=not active/1=active
1-2-6-4-1	Rainwater pump 2 mode	206F	1	0=off/1=on
1-2-6-4-3	Rainwater pump 2 Runtime	2070	2	in seconds
1-2-6-4-4	Rainwater pump 2 starts	2072	2	Number of starts
1-2-6-4-2	Rainwater pump 2 state	2074	1	0=pumpe off/1=pump running
	HMI traffic light	20EC	1	0=green, 1=yellow, 2=red
3-3-3	Discharge	20EE	1	1=fixed speed, 2=one jockey, 3=two jockey, 4=VFD change over, 6=VFD fixed all

Parameter	Name	Hex Address	1 or 2 register (Byte)	Value/Unit
3-5-1	Setpoint	2100	1	
3-5-9	Adapt. Setpoint	2101	1	
2-1-3	Acknowledge all	2102	1	
3-7-1	Year Format: YYYY	2103	1	e.g. 2014
3-7-1	Month Format: MM	2104	1	1 to 12
3-7-1	Day Format: DD	2105	1	1 to 31
3-7-2	Current Time. SSSSS	2106	2	0 to 86399

8.2 Parameter list 'write'

Table 7: Write

Parameter-Nr	Name	Hex-Address 0x...	1 or 2 register (Byte)	Value/ Unit
3-5-1	Setpoint	2100	1	Value 3-4-2-1 to 3-5-3 In kPa
3-5-9	Adapt. Setpoint	2101	1	Value 3-4-2-1 to 3-5-3 In kPa
2-1-3 ¹	Acknowledge All	2102	1	0->1
3-7-1	Actual year Format: YYYY	2103	1	1970 to 2099 e.g. 2014
3-7-1	Actual month Format: MM	2104	1	1 to 12
3-7-1	Actual day Format: DD	2105	1	1 to 31
3-7-2	Actual Time Format SSSSS	2106	2	0 to 86399

1. All faults can be acknowledged but some failures have a mechanical lock. These failures can only be solved at the control panel.

8.3 Parameter list 'messages'

Table 8: Messages 1-10

Name Parameter	Profibus-Module register DEC	Hex-Address 0x...	2 registers (Byte)	Register length
Message 1	48194	2001	2	1
Message 2	48195	2002	2	1
Message 3	48196	2003	2	1
Message 4	48197	2004	2	1
Message 5	48198	2005	2	1

Name Parameter	Profibus-Module register DEC	Hex-Address 0x...	2 registers (Byte)	Register length
Message 6	48199	2006	2	1
Message 7	48200	2007	2	1
Message 8	48201	2008	2	1
Message 9	48433	20F0	2	1
Message 10	48434	20F1	2	1

Table 9: Message 1

Message field 0x2001 48194	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 1	0	Temp.high Pump 6	x	x	x	x
Message 1	1	Supply valve suction side	x	x	x	x
Message 1	2	Sensor failure input.	x	x	x	
Message 1	3	Level High water Tank.	x	x	x	
Message 1	4	Critical water level	x	x	x	
Message 1	5	Low level shut down	x	x	x	
Message 1	6	Communication error FC 1			x	
Message 1	7	Communication error FC 2			x	
Message 1	8	Communication error FC 3			x	
Message 1	9	Communication error FC 4			x	
Message 1	10	Communication error FC 5			x	
Message 1	11	Communication error FC 6			x	
Message 1	12	Wrong Checksum FC 1			x	
Message 1	13	Wrong Checksum FC 2			x	
Message 1	14	Wrong Checksum FC 3			x	
Message 1	15	Wrong Checksum FC 4			x	

Table 10: Message 2

Message field 0x2002 48195	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 2	0	Pressure sensor failure short-circuit	x	x	x	
Message 2	1	System pressure low	x	x	x	
Message 2	2	System pressure high	x	x	x	
Message 2	3	Dry run	x	x	x	x
Message 2	4	Service necessary	x	x	x	
Message 2	5	Therm. Alarm more than 1 pump	x	x	x	
Message 2	6	WSD Tank1	x	x	x	
Message 2	7	WSD Tank2	x	x	x	
Message 2	8	WSD Tank3	x	x	x	
Message 2	9	WSD: T mitt. high	x	x	x	



Message field 0x2002 48195	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 2	10	WSD: akt. T. High	x	x	x	
Message 2	11	Temp.high Pump 1	x	x	x	x
Message 2	12	Temp.high Pump 2	x	x	x	x
Message 2	13	Temp.high Pump 3	x	x	x	x
Message 2	14	Temp.high Pump 4	x	x	x	x
Message 2	15	Temp.high Pump 5	x	x	x	x

Table 11: Message 3

Message field 0x2003 48196	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 3	0	Pump 3 Off (via display)	x	x	x	
Message 3	1	Pump 4 Off (via display)	x	x	x	
Message 3	2	Pump 5 Off (via display)	x	x	x	
Message 3	3	Pump 6 Off (via display)	x	x	x	
Message 3	4	Pump 1 Manual (via display)	x	x	x	
Message 3	5	Pump 2 Manual (via display)	x	x	x	
Message 3	6	Pump 3 Manual (via display)	x	x	x	
Message 3	7	Pump 4 Manual (via display)	x	x	x	
Message 3	8	Pump 5 Manual (via display)	x	x	x	
Message 3	9	Pump 6 Manual (via display)	x	x	x	
Message 3	10	Several Pumps off (via display)	x	x	x	
Message 3	11	Intern error FC 1			x	
Message 3	12	Intern error FC 2			x	
Message 3	13	Intern error FC 3			x	
Message 3	14	Intern error FC 4			x	
Message 3	15	Intern error FC 5			x	

Table 12: Message 4

Message field 0x2004 48197	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 4	0	Wrong Checksum FC 5			x	
Message 4	1	Wrong Checksum FC 6			x	
Message 4	2	WSD Temp. Sensor	x	x	x	
Message 4	3	24 V a. Area	x	x	x	
Message 4	4	5V Span. invalid	x	x	x	
Message 4	5	3 V a. Area	x	x	x	
Message 4	6	External Off	x	x	x	x
Message 4	7	Fire alarm	x	x	x	x
Message 4	8	Disturbance FC		x		
Message 4	9	Error Sensor pressure side	x	x	x	

Message field 0x2004 48197	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 4	10	Error Sensor suction side	x	x	x	
Message 4	11	Disturbance FCs in V mode			x	
Message 4	12	Leakage	x	x	x	
Message 4	13	Eeprom HW Defect wire breakage	x	x	x	
Message 4	14	Pump 1 Off (via display)	x	x	x	
Message 4	15	Pump 2 Off (via display)	x	x	x	

Table 13: Message 5

Message field 0x2005 48198	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 5	0	Under voltage FC 4			x	
Message 5	1	Under voltage FC 5			x	
Message 5	2	Under voltage FC 6			x	
Message 5	3	Overload error FC 1			x	
Message 5	4	Overload error FC 2			x	
Message 5	5	Overload error FC 3			x	
Message 5	6	Overload error FC 4			x	
Message 5	7	Overload error FC 5			x	
Message 5	8	Overload error FC 6			x	
Message 5	9	Braking resistor FC 1			x	
Message 5	10	Braking resistor FC 2			x	
Message 5	11	Braking resistor FC 3			x	
Message 5	12	Braking resistor FC 4			x	
Message 5	13	Braking resistor FC 5			x	
Message 5	14	Braking resistor FC 6			x	
Message 5	15	Temperature error FC 1			x	

Table 14: Message 6

Message field 0x2006 48199	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 6	0	Intern error FC 6			x	
Message 6	1	error main FC 1			x	
Message 6	2	error main FC 2			x	
Message 6	3	error main FC 3			x	
Message 6	4	error main FC 4			x	
Message 6	5	error main FC 5			x	
Message 6	6	error main FC 6			x	
Message 6	7	Over voltage FC 1			x	
Message 6	8	Over voltage FC 2			x	
Message 6	9	Over voltage FC 3			x	



Message field 0x2006 48199	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 6	10	Over voltage FC 4			x	
Message 6	11	Over voltage FC 5			x	
Message 6	12	Over voltage FC 6			x	
Message 6	13	Under voltage FC 1			x	
Message 6	14	Under voltage FC 2			x	
Message 6	15	Under voltage FC 3			x	

Table 15: Message 7

Message field 0x2007 48200	Bit	Message description	DOL	MCF	MCMF	Digital input
Message 7	0	Short error FC 4			x ¹	
Message 7	1	Short error FC 5			x ¹	
Message 7	2	Short error FC 6			x ¹	
Message 7	3	External power operation	x ¹	x ¹	x ¹	
Message 7	4	Reducing Setpoint		x ¹	x ¹	
Message 7	5	Factory test	x ¹	x ¹	x ¹	
Message 7	6	MPO Error			x ¹	
Message 7	7	Switch off ASR		x ¹	x ¹	
Message 7	8	BC IO communication error	x ¹	x ¹	x ¹	
Message 7	9	Fault rainwater pump 1	x ²	x ²	x ²	
Message 7	10	Fault rainwater pump 2	x ²	x ²	x ²	
Message 7	11	No rainwater	x ²	x ²	x ²	
Message 7	12	Fault potable water network	x ²	x ²	x ²	
Message 7	13	Starts/h rainwater pump 1	x ²	x ²	x ²	
Message 7	14	Starts/h rainwater pump 2	x ²	x ²	x ²	
Message 7	15	Potable water consumption	x ²	x ²	x ²	

1. 1-6 pumps
2. 1-3 pumps

Table 16: Message 8

Message field 0x2008 848201	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 8	0	Temperature error FC 2			x	
Message 8	1	Temperature error FC 3			x	
Message 8	2	Temperature error FC 4			x	
Message 8	3	Temperature error FC 5			x	
Message 8	4	Temperature error FC 6			x	
Message 8	5	ATM error FC 1, only Danfoss			x	
Message 8	6	ATM error FC 2, only Danfoss			x	
Message 8	7	ATM error FC 3, only Danfoss			x	

Message field 0x2008 848201	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 8	8	ATM error FC 4, only Danfoss			x	
Message 8	9	ATM error FC 5, only Danfoss			x	
Message 8	10	ATM error FC 6, only Danfoss			x	
Message 8	11	flushing	x	x	x	
Message 8	12	Valve opened often	x	x	x	
Message 8	13	Short error FC 1			x	
Message 8	14	Short error FC 2			x	
Message 8	15	Short error FC 3			x	

Table 17: Message 9

Message field 0x20F0 848233	Bit	Message description	DOL 1-6	MCF 1-6	MCMF 1-6	Digital input
Message 9	0	Reserve				
Message 9	1	Reserve				
Message 9	2	Reserve				
Message 9	3	Reserve				
Message 9	4	Reserve				
Message 9	5	Reserve				
Message 9	6	Reserve				
Message 9	7	Reserve				
Message 9	8	Reserve				
Message 9	9	Reserve				
Message 9	10	Reserve				
Message 9	11	Reserve				
Message 9	12	Reserve				
Message 9	13	Reserve				
Message 9	14	Reserve				
Message 9	15	Reserve				

Table 18: Message 10

Message field 0x20F1 848234	Bit	Message description	DOL 1-3	MCF 1-3	MCMF 1-3	Digital input
Message 10	0	Water changes	x	x	x	
Message 10	1	Forced water changes	x	x	x	
Message 10	2	Rainwater pump 1 manual OFF	x	x	x	
Message 10	3	Rainwater pump 2 manual OFF	x	x	x	
Message 10	4	Rainwater pump 1 manual ON	x	x	x	
Message 10	5	Rainwater pump 2 manual ON	x	x	x	
Message 10	6	Rainwater reservoir filling	x	x	x	
Message 10	7	Rainwater changes not completed	x	x	x	



Message field 0x20F1 848234	Bit	Message description	DOL 1-3	MCF 1-3	MCMF 1-3	Digital input
Message 10	8	Reserve				
Message 10	9	Reserve				
Message 10	10	Reserve				
Message 10	11	Reserve				
Message 10	12	Reserve				
Message 10	13	Reserve				
Message 10	14	Reserve				
Message 10	15	Reserve				



ATTENTION

X = query / analysis is possible in corresponding variant

P1 = Pump 1 ... P6 = Pump 6

Evaluation / query collective fault: Register 0x2001/0x2003/0x2005/0x2007/0x20F0/0x20F1

unequal to 0Run/Operating signal of individual pumps: bit representation in the register

0x201aMalfunctions of each pump must be requested variant-specific:

e.g. in DOL-variant only register 0x2001 Bit 11-16

e.g. in MCMF-variant Register 0x2001 Bit 11-16 and in addition all possible frequency converter faults

Remote acknowledgement can be executed with signal change 0 -> 1 in the register 0x2102.

8.4 Example

The used software in this example is Siemens PLC software Step 7 TIA PORTAL V13.1

Bit 0 of byte 13 (TID) will change its status after every write or read action. Byte 12 (TC) decides write or read. By reading a value, the hexadecimal code of the requested parameter is put in byte 6. After changing bit 0 of byte 13, byte 10 will give the value.

Network 1

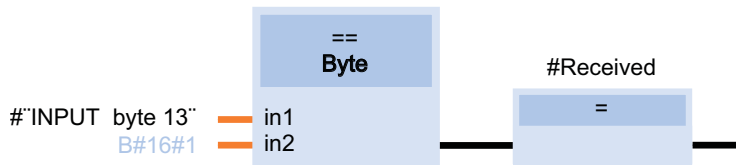


Figure 3: Input bit 0 of byte 13 read megacontrol

Network 2



Figure 4: Output bit 0 of byte 13 write to megacontrol
If input bit = 1 then output is 0

Network 3

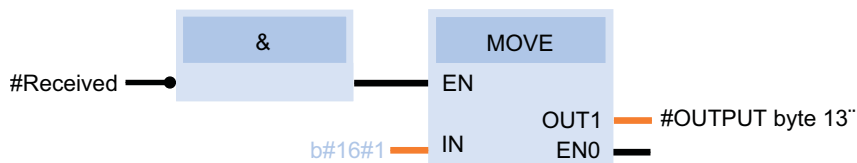


Figure 5: Output bit 0 of byte 13 write to megacontrol
If input bit = 0 then output is 1

Network 4

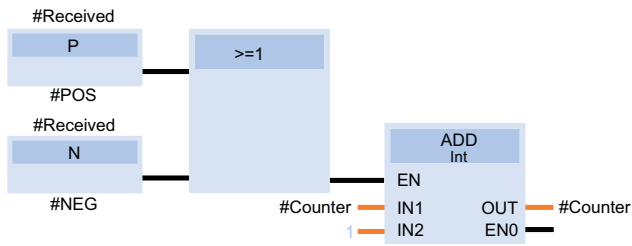


Figure 6: Counter is used for the number of data to send of retrieve to/from the megacontrol
If input bit 0 of byte 13 changes the counter will increase.

Network 5

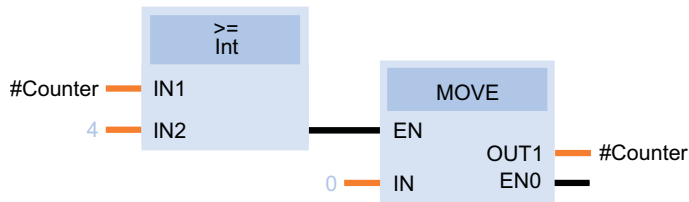


Figure 7: Reset the counter after reaching the maximum ranch of the counter
The counter position is depending on the total transmitted / received data.

Network 6

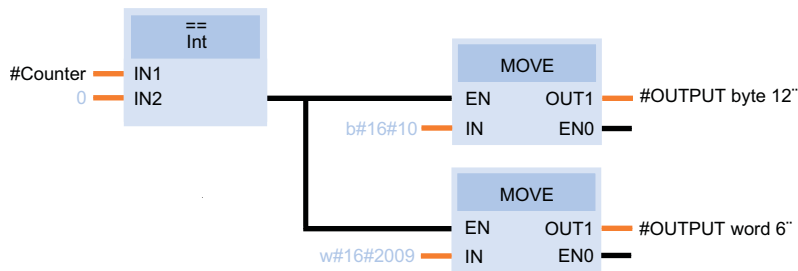


Figure 8: Retrieve the system pressure from the megacontrol
If the counter is 0 then make byte 12 high (read). Also write HEX code for system pressure to word 6.

Network 7

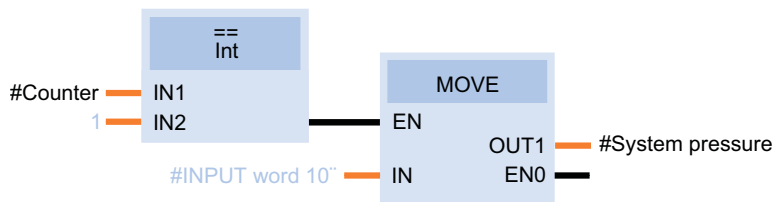


Figure 9: Receive system pressure

If the input bit 0 of byte 13 changes the real value of the system pressure is displayed in word 10

Network 8

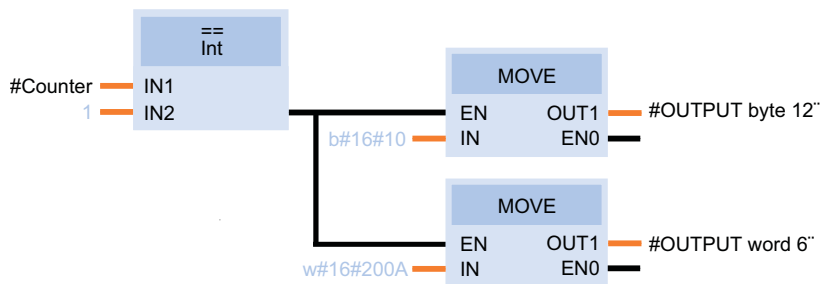


Figure 10: Retrieve system load

If the counter value is 1 then make bit 4 of byte 12 high (read) and write also the HEX code of the system load to word 6

Network 9

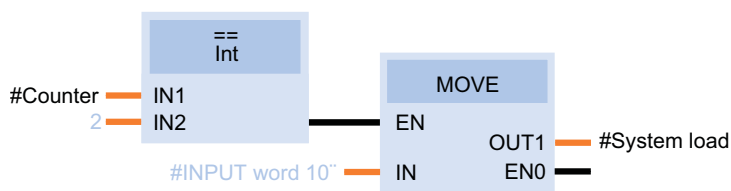


Figure 11: Receive system load

If the input bit 0 of byte 13 changes the real value of the system load is displayed in word 10

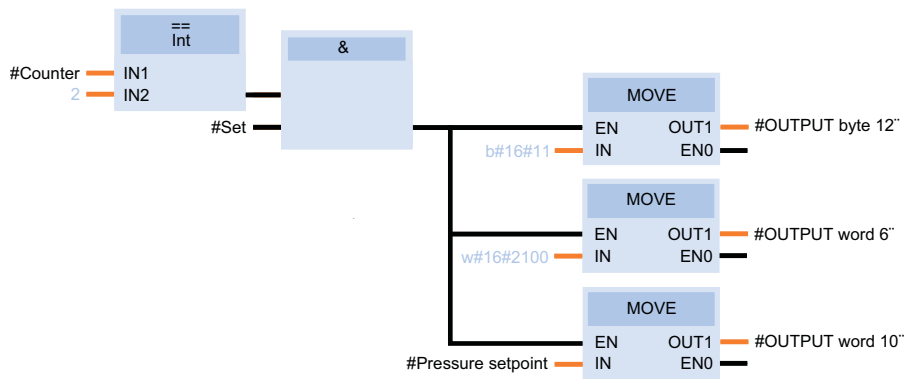
Network 10

Figure 12: Set setpoint if #Set is made

If the counter value is 2 then make bit 0 and bit 4 of byte 12 high (write) and also write the setpoint value to HEX code off the pressure setpoint to word 6 and write setpoint to byte 10

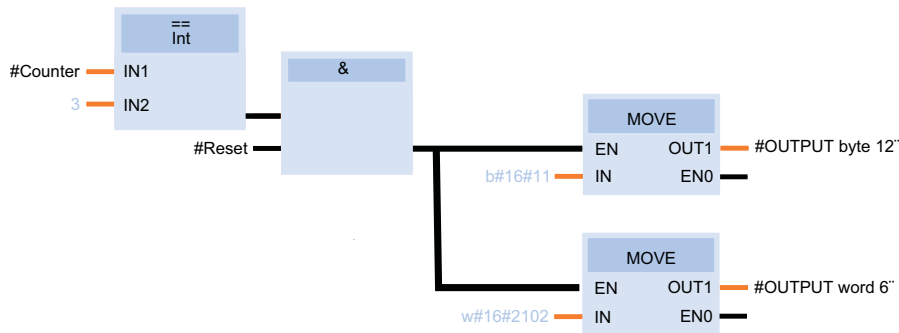
Network 11

Figure 13: Reset megacontrol if #Reset is made

If the counter value is 3 then make bit 0 and bit 4 of byte 12 high (write) and also write the reset megacontrol HEX code for reset the megacontrol to word 6

9 Annexes

9.1 Megacontrol / profibus diagram

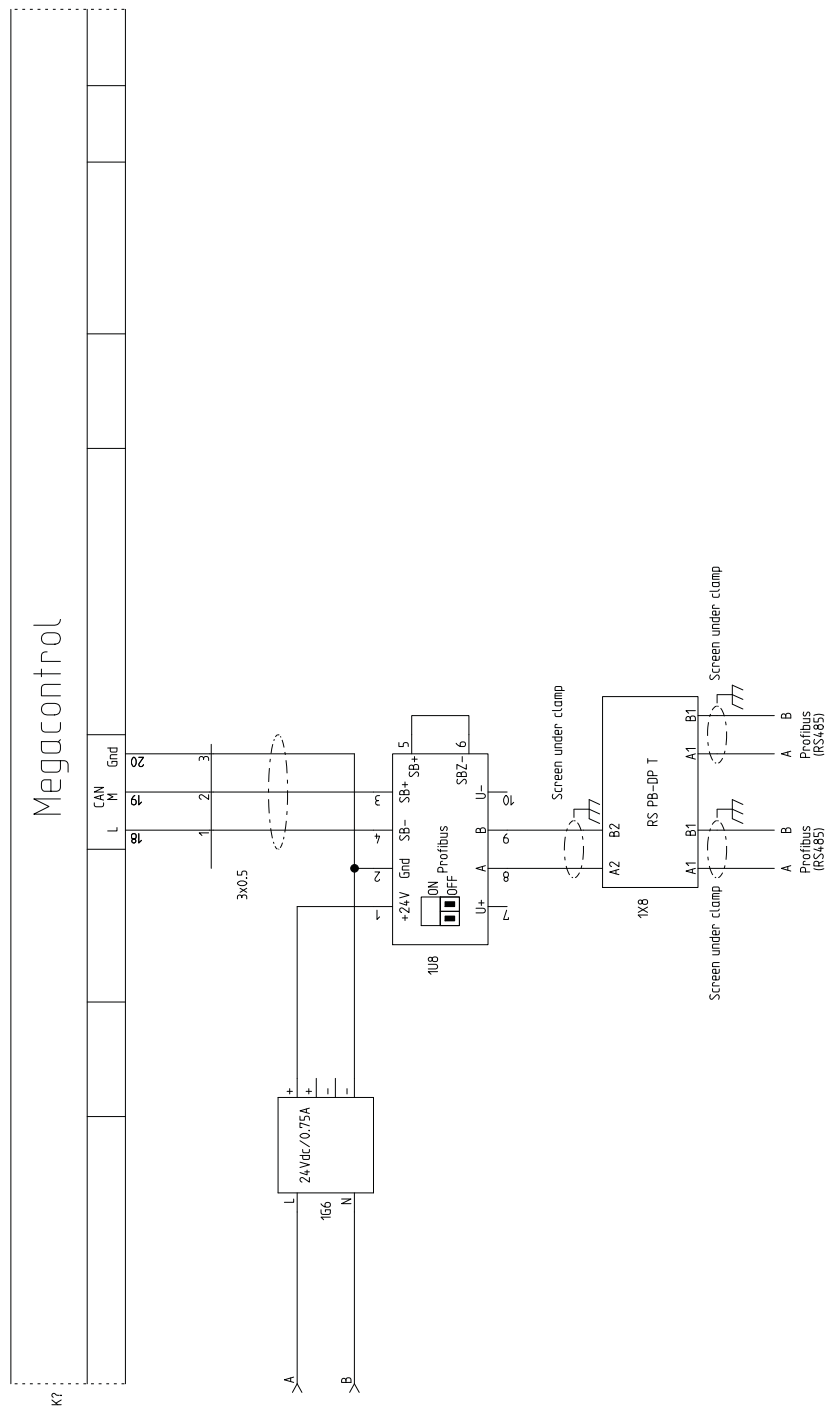


Figure 14: Profibus / Megacontrol diagram



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Original instructions

Can be changed without prior notice

