



EMR-3MP0 Profibus Register Maps

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This manual applies to devices:

Version 3.5.c

Build: 43490

Profibus

The Slave is a so-called “Modular Slave”. Within the GSD-File the optional available Configuration Modules are described only. The precise configuration for a device can be inquired by means of the Profibus-Command “GetConfig”. The configuration consists of so-called “Modules”. The description of the modules can be taken from the Profibus specification. Please contact the Technical Support in case of questions regarding the configuration. The meaning of the Input and Output fields can be taken from the following tables. The input fields are sent from the Slave to the Master. The output fields are sent from the Master to the Slave. The Output field contain the Commands and the Input field contain the States of the device.

Configuration

The configuration telegram follows right after the parameter telegram and declares the number of input and output bytes. The Master sends to all Slaves how many bytes for each input and output message cycle are required. The following table defines the required size of a single input and output frame.

<i>Direction</i>	<i>Length</i>	<i>Configuration</i>
Input	48	0x1F 0x1F 0x1F
Output	7	0x26

Data Point Lists

Signals

These Data can be taken from the Input Field of the Profibus. The Input Field is sent from the Slave to the Master and it contains device states.

Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
Bkr	State	0/0		Signal: Breaker Position (0 = Indeterminate, 1 = OPEN, 2 = CLOSE, 3 = Disturbed)
Profibus	Data OK	0/2		Data within the input field are OK (Yes=1)
Prot	Active	0/3		Signal: Active
Prot	Pickup Phase A	0/4		Signal: General Pickup Phase A
Prot	Pickup Phase B	0/5		Signal: General Pickup Phase B
Prot	Pickup Phase C	0/6		Signal: General Pickup Phase C
Prot	Pickup IX	0/7		Signal: General Pickup - Ground Fault
Prot	Pickup	1/0		Signal: General Pickup
Prot	Trip Phase A	1/1	*	Signal: General Trip Phase A
Prot	Trip Phase B	1/2	*	Signal: General Trip Phase B
Prot	Trip Phase C	1/3	*	Signal: General Trip Phase C
Prot	Trip IX	1/4	*	Signal: General Trip Ground Fault
Prot	Trip	1/5	*	Signal: General Trip
Profibus	Assignme nt 1-l	5/0		Module input state: Comm Assignment
Profibus	Assignme nt 2-l	5/1		Module input state: Comm Assignment

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
Profibus	Assignment 3-l	5/2		Module input state: Comm Assignment
Profibus	Assignment 4-l	5/3		Module input state: Comm Assignment
Profibus	Assignment 5-l	5/4		Module input state: Comm Assignment
Profibus	Assignment 6-l	5/5		Module input state: Comm Assignment
Profibus	Assignment 7-l	5/6		Module input state: Comm Assignment
Profibus	Assignment 8-l	5/7		Module input state: Comm Assignment
Profibus	Assignment 9-l	6/0		Module input state: Comm Assignment
Profibus	Assignment 10-l	6/1		Module input state: Comm Assignment
Profibus	Assignment 11-l	6/2		Module input state: Comm Assignment
Profibus	Assignment 12-l	6/3		Module input state: Comm Assignment
Profibus	Assignment 13-l	6/4		Module input state: Comm Assignment
Profibus	Assignment 14-l	6/5		Module input state: Comm Assignment
Profibus	Assignment 15-l	6/6		Module input state: Comm Assignment
Profibus	Assignment 16-l	6/7		Module input state: Comm Assignment
Profibus	Assignment 17-l	7/0		Module input state: Comm Assignment

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
Profibus	Assignment 18-l	7/1		Module input state: Comm Assignment
Profibus	Assignment 19-l	7/2		Module input state: Comm Assignment
Profibus	Assignment 20-l	7/3		Module input state: Comm Assignment
Profibus	Assignment 21-l	7/4		Module input state: Comm Assignment
Profibus	Assignment 22-l	7/5		Module input state: Comm Assignment
Profibus	Assignment 23-l	7/6		Module input state: Comm Assignment
Profibus	Assignment 24-l	7/7		Module input state: Comm Assignment
Profibus	Assignment 25-l	8/0		Module input state: Comm Assignment
Profibus	Assignment 26-l	8/1		Module input state: Comm Assignment
Profibus	Assignment 27-l	8/2		Module input state: Comm Assignment
Profibus	Assignment 28-l	8/3		Module input state: Comm Assignment
Profibus	Assignment 29-l	8/4		Module input state: Comm Assignment
Profibus	Assignment 30-l	8/5		Module input state: Comm Assignment
Profibus	Assignment 31-l	8/6		Module input state: Comm Assignment
Profibus	Assignment 32-l	8/7		Module input state: Comm Assignment
50P[1]	Pickup	10/0		Signal: Pickup

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
50P[2]	Pickup	10/1		Signal: Pickup
50X[1]	Pickup	10/2		Signal: The pickup value has been exceeded.
50X[2]	Pickup	10/3		Signal: The pickup value has been exceeded.
46[1]	Pickup	10/4		Signal: Pickup Negative Sequence
46[2]	Pickup	10/5		Signal: Pickup Negative Sequence
Trip Bypass	Trip	10/6		Signal: Breaker Failure Trip
DI Slot X1	DI 1	10/7		Signal: Digital Input
DI Slot X1	DI 2	11/0		Signal: Digital Input
DI Slot X1	DI 3	11/1		Signal: Digital Input
DI Slot X1	DI 4	11/2		Signal: Digital Input
RO-3AI X2	RO 1	11/3		Signal: Relay Output
RO-3AI X2	RO 2	11/4		Signal: Relay Output
RO-3AI X2	RO 3	11/5		Signal: Relay Output
MStart	Stop	11/6		Signal: Motor is in stop mode
MStart	Start	11/7		Signal: Motor is in start mode
MStart	Run	12/0		Signal: Motor is in run mode
MStart	I_Transit	12/1		Signal: Current transition signal
MStart	T_Transit	12/2		Signal: Time transition signal
MStart	Blo	12/3		Signal: Motor is blocked for starting or transition to Run mode
MStart	ColdStart Seq	12/4		Signal: Motor cold start sequence flag
MStart	NOCSBlo cked	12/5		Signal: Motor is prohibited to start due to number of cold start limits
MStart	SPHBloc ked	12/6		Signal: Motor is prohibited to start due to starts per hour limits

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
MStart	SPHBloc kAlarm	12/7		Signal: Motor is prohibited to start due to starts per hour limits, would come active in the next stop
MStart	TBSBlock ed	13/0		Signal: Motor is prohibited to start due to time between starts limits
MStart	MotorSto pBlo	13/1		Signal: Motor stop block other protection functions
MStart	ThermalB lock	13/2		Signal: Thermal block
MStart	RemBloc kStart	13/3		Signal: Motor is prohibited to start due to external blocking through digital input DI
MStart	LATBlock	13/4		Signal: Long acceleration timer enforced
MStart	ABKActiv e	13/5		Signal: Anti-backspin is active. For certain applications, such as pumping a fluid up a pipe, the motor may be driven backward for a period of time after it stops. The anti-backspin timer prevents starting the motor while it is spinning in the reverse direction.
MStart	ForcedSt art	13/6		Signal: Motor being forced to start
MStart	Trip	13/7	*	Signal: Trip
MStart	Transition Trip	14/0	*	Signal: Start transition fail trip
MStart	ZSSTrip	14/1	*	Signal: Zero speed trip (possible locked rotor)
MStart	INSQSP2 STFail	14/2	*	Signal: Fail to transit from stop to start based on reported back time
MStart	INSQSt2 RunFail	14/3	*	Signal: Fail to transit from start to run based on reported back time
MStart	TripPhas eReverse	14/4	*	Signal: Relay tripped because of phase reverse detection

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
MStart	INSQ-I	14/5		State of the module input: INcomplete SeQuence
MStart	ZSS-I	14/6		State of the module input: Zero Speed Switch
MStart	RemStart Block-I	14/7		State of the module input: Remote Motor Start Blocking
49	Active	15/0		Signal: Active
49	Load above SF	15/1		“Load above Service Factor”: If the current exceeds the set value of “UTC” (“Ultimate trip threshold”) then the used thermal capacity counts up and the state “Load above SF” is becoming true. If the current is below the “UTC” value this state is false.
49	RTD effective	15/2		This state becomes true if the following conditions are all fulfilled: <ul style="list-style-type: none"> - the state “Load above SF” is true, - the Winding Temperature Trip has been activated in the RTD module, - for at least one temperature a valid value above 0°C (32°F) is being displayed.
49	Pickup	15/3		Signal: Pickup
49	Alarm Pickup	15/4		Signal: Alarm Pickup
49	Alarm Timeout	15/5		Signal: Alarm Timeout
50J[1]	Pickup	15/6		Signal: Pickup
50J[2]	Pickup	15/7		Signal: Pickup
37[1]	Pickup	16/0		Signal: Pickup
37[2]	Pickup	16/1		Signal: Pickup
MLS	Pickup	16/2		Signal: Pickup

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
RTD	Active	16/3		Signal: Active
RTD	Alarm	16/4		Alarm RTD Temperature Protection

Measuring values

These Data can be taken from the Input Field of the Profibus. The Input Field is sent from the Slave to the Master and contains device states.

Module	Names Functions	Offset (BytePosition)	Format	Description
CT	IA Fund.	20/0	Float IEEE754	Measured value: Phase current (Fundamental)
CT	IB Fund.	24/0	Float IEEE754	Measured value: Phase current (Fundamental)
CT	IC Fund.	28/0	Float IEEE754	Measured value: Phase current (Fundamental)
CT	IX meas Fund.	32/0	Float IEEE754	Measured value (measured): IX (Fundamental)
CT	%(I2/I1)	36/0	Float IEEE754	Measured value (calculated): I2/I1, phase sequence will be taken into account automatically.
MStart	I3 PFLA avg	40/0	Float IEEE754	Average RMS current of all 3 phases as multiples of FLA
Values	Operating hours Cr	44/0	Float IEEE754	Operating hours counter of the protective device

Commands

The commands are set within the Output Field. These data fields are sent from the master to the slave. The slave will respond on data modifications only. For example if a 2 Bit state changes from Off (01) to On (2).

Module	Names Function	Offset (BytePosition /BitPosition) in Output field	Description
Bkr	Control/Position of circuit breaker	0/0	Control respectively Position of circuit breaker (1 = OFF, 2 = On).
Sys	Ack LED	2/0	All acknowledgeable LEDs will be acknowledged.
Sys	Ack RO	2/2	All acknowledgeable Relay Outputs are acknowledged.
Sys	Ack Comm	2/4	Latched communication (SCADA) signals are acknowledged (reset).
Commands	Comm Cmd 1	2/6	Communication Command
Commands	Comm Cmd 2	3/0	Communication Command
Commands	Comm Cmd 3	3/2	Communication Command
Commands	Comm Cmd 4	3/4	Communication Command
Commands	Comm Cmd 5	3/6	Communication Command
Commands	Comm Cmd 6	4/0	Communication Command
Commands	Comm Cmd 7	4/2	Communication Command
Commands	Comm Cmd 8	4/4	Communication Command
Commands	Comm Cmd 9	4/6	Communication Command
Commands	Comm Cmd 10	5/0	Communication Command
Commands	Comm Cmd 11	5/2	Communication Command
Commands	Comm Cmd 12	5/4	Communication Command
Commands	Comm Cmd 13	5/6	Communication Command

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Module	Names Function	Offset (BytePosition /BitPosition) in Output field	Description
Commands	Comm Cmd 14	6/0	Communication Command
Commands	Comm Cmd 15	6/2	Communication Command
Commands	Comm Cmd 16	6/4	Communication Command

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