



EMR-3000 Profibus Register Maps

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This manual applies to devices:

Version 3.0.c

Build: 28663

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	50	0x1F 0x1F 0x1F 0x11
Output	8	0x27

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)
Sys	PS 1	2/0		Signal: Parameter Set 1
Sys	PS 2	2/1		Signal: Parameter Set 2
Sys	PS 3	2/2		Signal: Parameter Set 3
Sys	PS 4	2/3		Signal: Parameter Set 4
Profibus	Data OK	2/4		Data within the input field are OK (Yes=1)
Prot	Active	2/5		Signal: Active
Prot	Pickup Phase A	2/6		Signal: General Pickup Phase A
Prot	Pickup Phase B	2/7		Signal: General Pickup Phase B
Prot	Pickup Phase C	3/0		Signal: General Pickup Phase C
Prot	Pickup IX or IR	3/1		Signal: General Pickup - Ground Fault
Prot	Pickup	3/2		Signal: General Pickup
Prot	Trip Phase A	3/3	*	Signal: General Trip Phase A
Prot	Trip Phase B	3/4	*	Signal: General Trip Phase B
Prot	Trip Phase C	3/5	*	Signal: General Trip Phase C

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
Prot	Trip IX or IR	3/6	*	Signal: General Trip Ground Fault
Prot	Trip	3/7	*	Signal: General Trip
Profibus	Assignment 1-l	5/0		Module input state: Comm Assignment
Profibus	Assignment 2-l	5/1		Module input state: Comm Assignment
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

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
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
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

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
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
Bkr	TripCmd	9/0	*	Signal: Trip Command
50P[1]	Pickup	10/0		Signal: Pickup
50P[1]	TripCmd	10/1	*	Signal: Trip Command
50P[2]	Pickup	10/2		Signal: Pickup
50P[2]	TripCmd	10/3	*	Signal: Trip Command
50P[3]	Pickup	10/4		Signal: Pickup
50P[3]	TripCmd	10/5	*	Signal: Trip Command
51P[1]	Pickup	10/6		Signal: Pickup
51P[1]	TripCmd	10/7	*	Signal: Trip Command
50X[1]	Pickup	11/0		Signal: Pickup IX or IR
50X[1]	TripCmd	11/1	*	Signal: Trip Command
50X[2]	Pickup	11/2		Signal: Pickup IX or IR
50X[2]	TripCmd	11/3	*	Signal: Trip Command
46[1]	Pickup	11/4		Signal: Pickup Negative Sequence
46[1]	TripCmd	11/5	*	Signal: Trip Command
46[2]	Pickup	11/6		Signal: Pickup Negative Sequence
46[2]	TripCmd	11/7	*	Signal: Trip Command
ExP[1]	Alarm	12/0		Signal: Alarm
ExP[1]	TripCmd	12/1	*	Signal: Trip Command
ExP[2]	Alarm	12/2		Signal: Alarm
ExP[2]	TripCmd	12/3	*	Signal: Trip Command

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
ExP[3]	Alarm	12/4		Signal: Alarm
ExP[3]	TripCmd	12/5	*	Signal: Trip Command
ExP[4]	Alarm	12/6		Signal: Alarm
ExP[4]	TripCmd	12/7	*	Signal: Trip Command
BF	Trip	13/0		Signal: Breaker Failure Trip
TCM	Pickup	13/1		Signal: Pickup Trip Circuit Supervision
CTS	Pickup	13/2		Signal: Pickup Current Transformer Measuring Circuit Supervision
Bkr	Isum Intr trip	13/3	*	Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.
DI Slot X1	DI 1	13/4		Signal: Digital Input
DI Slot X1	DI 2	13/5		Signal: Digital Input
DI Slot X1	DI 3	13/6		Signal: Digital Input
DI Slot X1	DI 4	13/7		Signal: Digital Input
RO-3AI X2	RO 1	14/0		Signal: Relay Output
RO-3AI X2	RO 2	14/1		Signal: Relay Output
RO-3AI X2	RO 3	14/2		Signal: Relay Output
RO-ZI X2	RO 1	14/3		Signal: Relay Output
RO-ZI X2	RO 2	14/4		Signal: Relay Output
RO-ZI X2	RO 3	14/5		Signal: Relay Output
MStart	Stop	14/6		Signal: Motor is in stop mode
MStart	Start	14/7		Signal: Motor is in start mode
MStart	Run	15/0		Signal: Motor is in run mode
MStart	I_Transit	15/1		Signal: Current transition signal
MStart	T_Transit	15/2		Signal: Time transition signal

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
MStart	Blo	15/3		Signal: Motor is blocked for starting or transition to Run mode
MStart	ColdStart Seq	15/4		Signal: Motor cold start sequence flag
MStart	NOCSBlo cked	15/5		Signal: Motor is prohibited to start due to number of cold start limits
MStart	SPHBloc ked	15/6		Signal: Motor is prohibited to start due to starts per hour limits
MStart	SPHBloc kAlarm	15/7		Signal: Motor is prohibited to start due to starts per hour limits, would come active in the next stop
MStart	TBSBlock ed	16/0		Signal: Motor is prohibited to start due to time between starts limits
MStart	MotorSto pBlo	16/1		Signal: Motor stop block other protection functions
MStart	ThermalB lock	16/2		Signal: Thermal block
MStart	RemBloc kStart	16/3		Signal: Motor is prohibited to start due to external blocking through digital input DI
MStart	LATBlock	16/4		Signal: Long acceleration timer enforced
MStart	ABKActiv e	16/5		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	16/6		Signal: Motor being forced to start
MStart	Trip	16/7	*	Signal: Trip
MStart	TripCmd	17/0	*	Signal: Trip Command

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
MStart	Transition Trip	17/1	*	Signal: Start transition fail trip
MStart	ZSSTrip	17/2	*	Signal: Zero speed trip (possible locked rotor)
MStart	INSQSP2 STFail	17/3	*	Signal: Fail to transit from stop to start based on reported back time
MStart	INSQSt2 RunFail	17/4	*	Signal: Fail to transit from start to run based on reported back time
MStart	TripPhaseReverse	17/5	*	Signal: Relay tripped because of phase reverse detection
MStart	INSQ-I	17/6		State of the module input: INcomplete Sequence
MStart	ZSS-I	17/7		State of the module input: Zero Speed Switch
MStart	RemStart Block-I	18/0		State of the module input: Remote Motor Start Blocking
49	Active	18/1		Signal: Active
49	Load above SF	18/2		Load above Service Factor
49	RTD effective	18/3		RTD effective
49	Pickup	18/4		Signal: Pickup
49	Alarm Pickup	18/5		Signal: Alarm Pickup
49	Alarm Timeout	18/6		Signal: Alarm Timeout
49	TripCmd	18/7	*	Signal: Trip Command
50J[1]	Pickup	19/0		Signal: Pickup
50J[1]	TripCmd	19/1	*	Signal: Trip Command
50J[2]	Pickup	19/2		Signal: Pickup

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Module	Names Function	Offset (BytePosition/BitPosition)	Self Latching	Description
50J[2]	TripCmd	19/3	*	Signal: Trip Command
37[1]	Pickup	19/4		Signal: Pickup
37[1]	TripCmd	19/5	*	Signal: Trip Command
37[2]	Pickup	19/6		Signal: Pickup
37[2]	TripCmd	19/7	*	Signal: Trip Command
37[3]	Pickup	20/0		Signal: Pickup
37[3]	TripCmd	20/1	*	Signal: Trip Command
MLS	Pickup	20/2		Signal: Pickup
RTD	Active	20/3		Signal: Active
RTD	TripCmd	20/4	*	Signal: Trip Command
RTD	Alarm	20/5		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.	22/0	Float IEEE754	Measured value: Phase current (Fundamental)
CT	IB Fund.	26/0	Float IEEE754	Measured value: Phase current (Fundamental)
CT	IC Fund.	30/0	Float IEEE754	Measured value: Phase current (Fundamental)
CT	IX meas Fund.	34/0	Float IEEE754	Measured value (measured): IX (Fundamental)
CT	%(I2/I1)	38/0	Float IEEE754	Measured value (calculated): I2/I1, phase sequence will be taken into account automatically.
MStart	I3 PFLA avg	42/0	Float IEEE754	Average RMS current of all 3 phases as multiples of FLA
Values	Operating hours Cr	46/0	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 will be acknowledged.
Sys	Ack Comm	2/4	Communication will be acknowledged.
PSS via Comm	PSS via Comm	3/0	Signal: Parameter Set Switch via Scada. Write into this output byte the integer of the parameter set that should become active (e.g. 4 => Switch onto parameter set 4).
Commands	Comm Cmd 1	4/0	Communication Command
Commands	Comm Cmd 2	4/2	Communication Command
Commands	Comm Cmd 3	4/4	Communication Command
Commands	Comm Cmd 4	4/6	Communication Command
Commands	Comm Cmd 5	5/0	Communication Command
Commands	Comm Cmd 6	5/2	Communication Command
Commands	Comm Cmd 7	5/4	Communication Command
Commands	Comm Cmd 8	5/6	Communication Command
Commands	Comm Cmd 9	6/0	Communication Command
Commands	Comm Cmd 10	6/2	Communication Command

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Module	Names Function	Offset (BytePosition /BitPosition) in Output field	Description
Commands	Comm Cmd 11	6/4	Communication Command
Commands	Comm Cmd 12	6/6	Communication Command
Commands	Comm Cmd 13	7/0	Communication Command
Commands	Comm Cmd 14	7/2	Communication Command
Commands	Comm Cmd 15	7/4	Communication Command
Commands	Comm Cmd 16	7/6	Communication Command

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