



Transfer of power specifications via pulse signals

SMA DATA MANAGER M (EDMM-10, EDMM-20)

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1 Introduction

Utility grid operators increasingly demand from PV system operators that digital signals of a ripple control receiver for controlling and regulating the nominal system power are transmitted as pulse signals (so-called wiping signals). This means that the signals are sent with a duration of 500 ms to 1500 ms, for example. This requirement can be implemented with the SMA Data Manager M (EDMM-10, EDMM-20). The internal digital inputs are used for this. To assign the bit fields to the power limitations, proceed as described in the following.

2 Use of Non-Static Digital Input Signals

Instead of static signals, some grid operators use pulse signals to specify the active power limitations. The high-low combinations generated this way are only stable for a certain time (usually a maximum of 1.5 seconds) and then revert back to the low-position. From firmware version 1.14.10.R (EDMM-10) or firmware version 2.00.35.R (EDMM-20) these signals can be used with restrictions on the SMA Data Manager M directly without an upstream small controller.

Requirements

- The digital inputs of the SMA Data Manager M must be used.
- Digital inputs of external I/O systems (e.g. Wago, Moxa) cannot be used for impulse specifications.
- A fallback behavior must not be entered. Make sure that this also does not cause fallback behavior in case of specifications via external communication (Modbus TCP).

Procedure

1. On the user interface of the SMA Data Manager M select **Configuration > Grid management services**.
2. Go to **Configuration & activation** of the **Active and reactive power**.
3. Under **Active power** select the **Grid operator specifications** (using the arrow on the right).
4. Activate the option **Source for external setpoint**.
5. Check the box for **Digital inputs**.
6. With the plus add a new I/O channel.
7. As the **Source of the digital value** select the SMA Data Manager M (EDMM-10/EDMM-20) under **Device**.
8. Select the corresponding digital inputs.

I/O Kanal konfigurieren

Bitte wählen Sie die **digitalen Eingänge** aus, für die ein Bitfeld festgelegt werden soll.

X2
☐ FAST STOP

X10
☒ DI 1 ☒ DI 2 ☒ DI 3 ☒ DI 4 ☐ DI 5 ☐ DI 6

X11
☐ DI 7 ☐ DI 8 ☐ DI 9 ☐ DI 10

9. Now the configuration for the digital inputs of the SMA Data Manager M can be made as follows: checkmark = active/contact closed; no checkmark = inactive/contact open.

Bitfelder

Bitte konfigurieren Sie die Kombinationen von Bitfeldern mit Ausgabewerten. Jede Zeile repräsentiert ein Bitfeld, das einem Ausgabewert zugeordnet wird.

#	DI 1	DI 2	DI 3	DI 4		
1	☒	☐	☐	☐	100	%
2	☐	☒	☐	☐	60	%
3	☐	☐	☒	☐	40	%
4	☐	☐	☐	☒	10	%

Vorgaben Bitfelder

- ✓ Bitfelder sind eindeutig
- ✓ Maximale Zeilenanzahl wird nicht überschritten

10. If a digital input is briefly closed (at least 500 ms), the value is adopted immediately.

11. If all digital inputs are inactive/open (0), an undefined state exists. This way, this default value remains unchanged until a new valid combination is detected. In this case, an input should be defined with 100% to be able to reset the system to 100%. A time of 12 or 24 hours, for example, without setpoint can be entered alternatively. Events are not triggered in any of these cases.
12. If static signals are specified instead of pulse signals and all digital inputs are inactive/open (0), an appropriate fallback value should be entered. A manual specification of 100% can be entered alternatively.

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