



6.10 Startup with communications interface / fieldbus

1. Review correct connection of MOVIMOT® (see the section 'Electrical Installation').
2. Set the correct RS-485 address on DIP switches S1/1...S1/4. Always set address '1' in conjunction with SEW fieldbus interfaces (MF...).

Decimal address	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S1/1	-	X	-	X	-	X	-	X	-	X	-	X	-	X	-	X
S1/2	-	-	X	X	-	-	X	X	-	-	X	X	-	-	X	X
S1/3	-	-	-	-	X	X	X	X	-	-	-	-	X	X	X	X
S1/4	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X

X = ON
 - = OFF

3. Set the minimum frequency f_{min} with switch f2.



Switch f2													
Detent position	0	1	2	3	4	5	6	7	8	9	10	11	12
Minimum frequency f_{min} [Hz]	2	5	7	10	12	15	20	25	30	35	40	45	50

4. If ramp is not set via fieldbus, set ramp time with switch t1 (ramp times are based on a setpoint jump of 50 Hz).



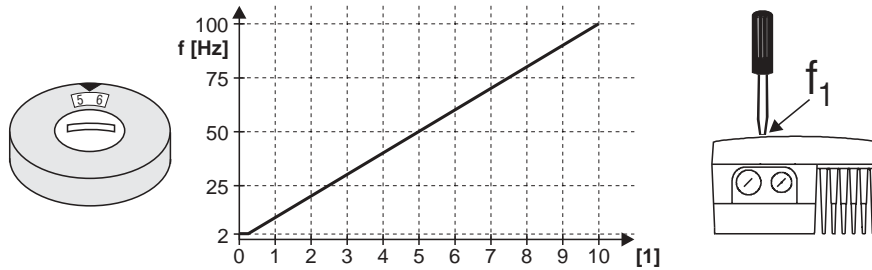
Switch t1													
Detent position	0	1	2	3	4	5	6	7	8	9	10	11	12
Ramp time t1 [s]	0.1	0.2	0.3	0.5	0.7	1	2	3	5	7	10	15	20

5. Check whether the required direction of rotation is enabled.

Terminal R	Terminal L	Message
Activated	Activated	<ul style="list-style-type: none"> Both directions of rotation are enabled
Activated	Not activated	<ul style="list-style-type: none"> Only clockwise direction of rotation is enabled Preselected setpoints for counterclockwise rotation result in standstill of drive
Not activated	Activated	<ul style="list-style-type: none"> Only counterclockwise direction of rotation is enabled Setpoint selections for clockwise lead to the drive being stopped
Not activated	Not activated	<ul style="list-style-type: none"> Unit is blocked or the drive is stopped



6. Replace and fasten terminal box cover.
7. Set the required maximum speed using setpoint potentiometer f1.



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[1] Pot. position

8. Install cover with gasket and fasten with retaining screw.
9. Switch on the voltage.



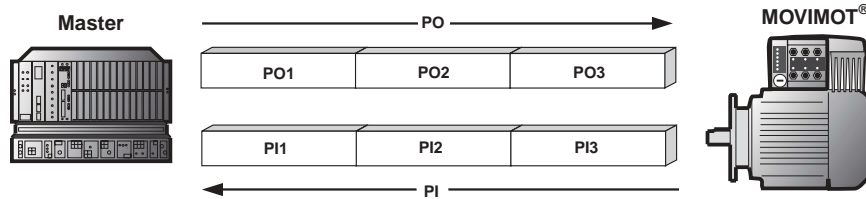
Refer to the 'Drive System for Decentralized Installation' system manual for more detailed information.



6.11 MOVILINK® unit profile (coding of process data)

The same process data information is used for controlling and selecting setpoints for all fieldbus systems. The process data are coded using the uniform MOVILINK® profile for SEW drive inverters. In the case of MOVIMOT®, it is always possible to differentiate between the following variants:

- Two process data words (2 PD)
- Three process data words (3 PD)



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PO = Process output data	PI = Process input data
PO1 = Control word	PI1 = Status word 1
PO2 = Speed (%)	PI2 = Output current
PO3 = Ramp	PI3 = Status word 2

Two process data words

In order to control MOVIMOT® using two process data words, the master programmable controller sends the process output data "Control word" and "Speed [%]" to the MOVIMOT® unit; the process input data "Status word 1" and "Output current" are sent from the MOVIMOT® unit to the programmable controller.

Three process data words

With control via three process data words, the "Ramp" is sent as the additional process output data word; "Status word 2" is sent as the third process input data word.

**Process output data**

Process output data are sent from the master programmable controller to the MOVIMOT® unit (control information and setpoints). However, they only come into effect in the MOVIMOT® unit if the RS-485 address in the MOVIMOT® is set to a value other than 0 (DIP switches S1/1 to 4). MOVIMOT® can be controlled with the following process output data:

- PO1: Control word
- PO2: Speed [%] (setpoint)
- PO3: Ramp

								Basic control block							
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

Control word:

Not assigned	'1' = Reset	Not assigned	'1 1 0' = Release otherwise stop
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Setpoint:

Signed percentage / 0.0061 % Example: -80% / 0.0061 % = - 13115 = CC5 _{hex}
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Ramp (with 3 word protocol only):

Time from 0 to 50 Hz in ms (range: 100 10000 ms) For example: 0.2 s = 2000 ms = 07D0 _{hex}

Control word, bits 0...2

The 'Enable' control command is specified with bits 0...2 by entering the control word = 0006_{hex}. The CW and/or CCW input terminal must also be set to +24 V (jumpered) in order to enable MOVIMOT®.

The 'Stop' control command is issued by resetting bit 2 = '0'. You should use the stop command 0002_{hex} in order to stay compatible with other SEW inverter ranges. However, MOVIMOT® always triggers a stop with the current ramp whenever bit 2 = '0', regardless of the status of bit 0 and bit 1.

Control word bit 6 = Reset

In the event of a malfunction, the fault can be acknowledged with bit 6 = '1' (Reset). The value of unassigned control bits should be 0 to ensure compatibility.

Speed [%]

The speed setpoint is specified as a percentage, relative to the maximum speed set with the f1 setpoint potentiometer.

Coding: C000_{hex} = -100 % (counterclockwise)
4000_{hex} = +100 % (clockwise)
→ 1 digit = 0,0061 %

For example: 80 % f_{max}, direction of rotation CCW:

Calculation: -80 % / 0.0061 = -13115_{dec} = CCC5_{hex}

Ramp

The current integrator in the process output data word PO3 is transferred if the process data exchange takes place using three process data words. The integrator ramp set using the switch t1 is used if MOVIMOT® is being controlled by 2 process data.

Coding: 1 digit = 1 ms

Range: 100...10000 ms

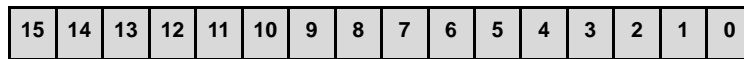
Example: 2.0 s = 2000 ms = 2000_{dec} = 07D0_{hex}



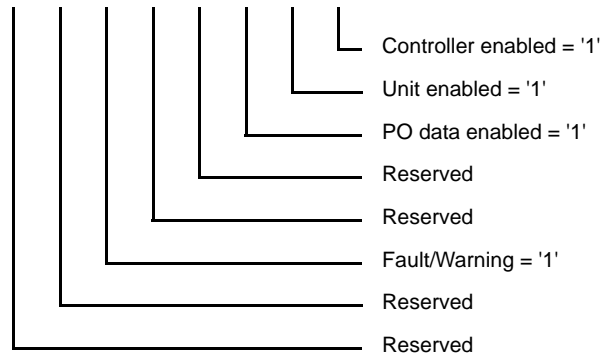
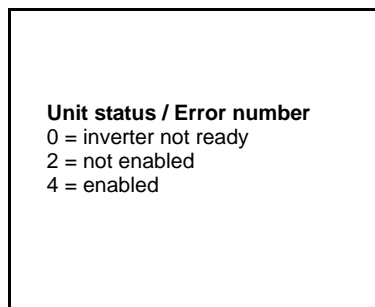
Process input data

The MOVIMOT® unit sends process input data back to the programmable master controller. The process input data consist of status and actual value information. The following process input data are supported by MOVIMOT®:

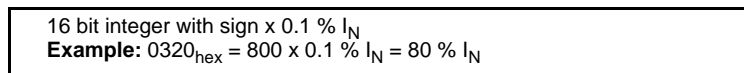
- PI1: Status word 1
- PI2: Output current
- PI3: Status word 2



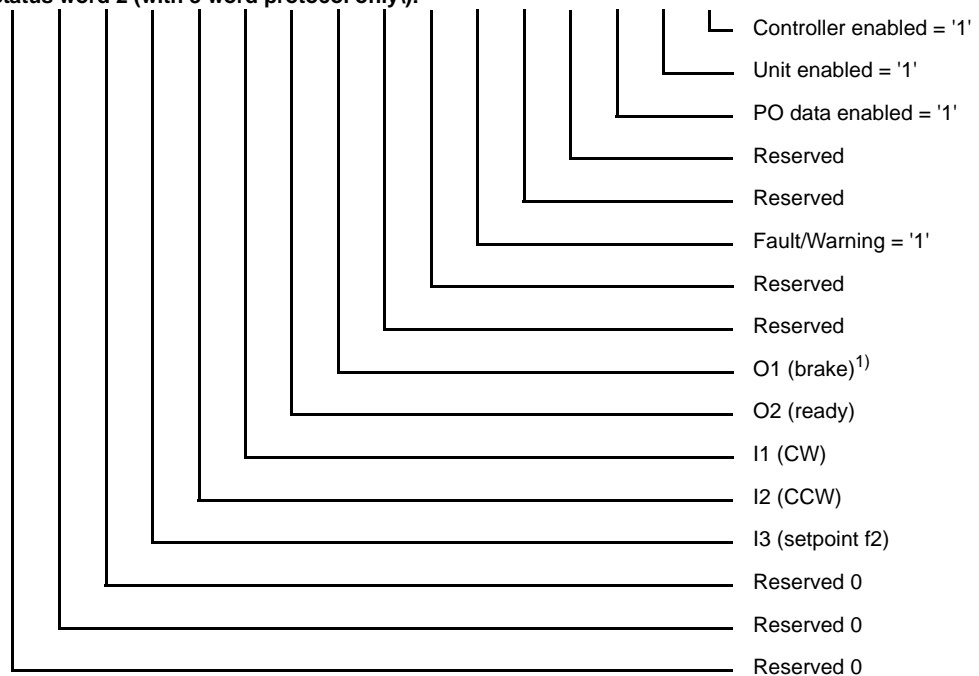
Status word 1:



Current actual value:



Status word 2 (with 3 word protocol only):



1) '1' = brake engaged, '0' = brake released



Refer to the 'Drive System for Decentralized Installation' system manual for more detailed information.