

IndraDrive – Profibus inställningar

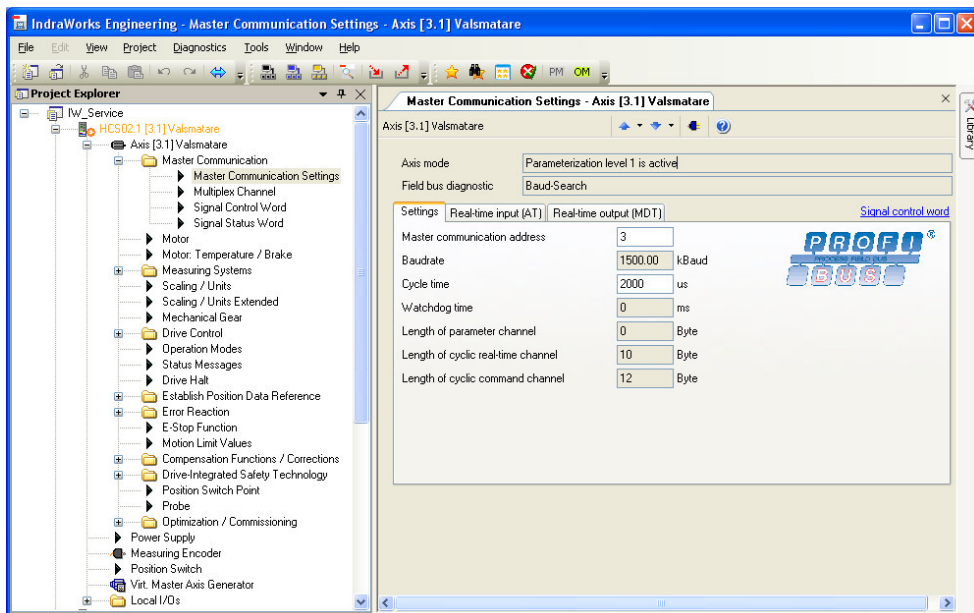
Grundläggande inställningar för Profibus

Version 3

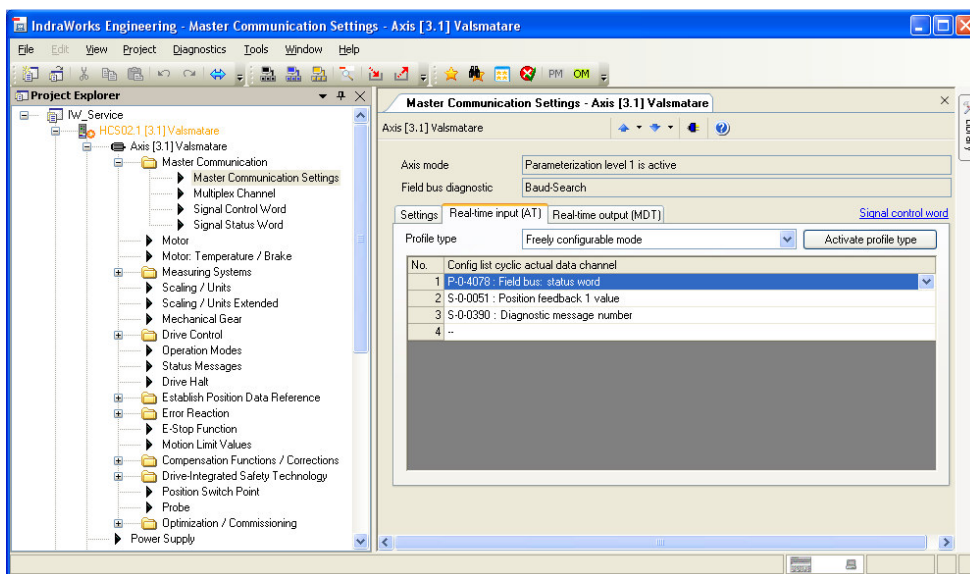


Profibus inställningar i IndraWorks

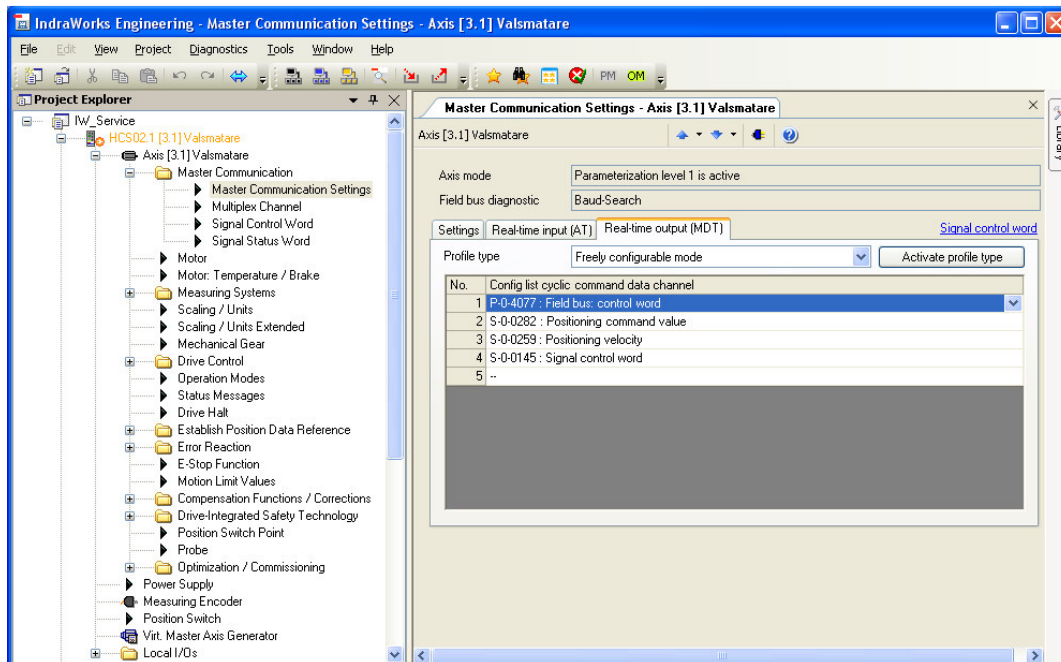
1. Välj *Master Communication Settings* under *Master communication* och skriv in aktuell ”Master communication address” (Ej tillåtet med adress 1, reserverad för DP-mastern)



2. Välj *Free configurable mode* under *Profile Type* och välj nedanstående parametrar i *Real-time input [AT]*



3. Lägg till parametrar enligt nedan i *Config list cyclic command data channel*. (Byt ut S-0-0282 mot S-0-0258 om enbart absolut positionering ska ske utan start signal)



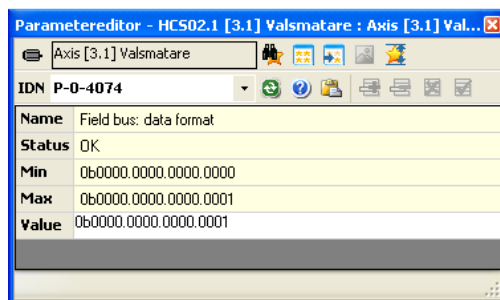
Real-time input (AT):

P-0-4078 Field bus: status word (1 word, Obligatorisk)
 S-0-0051 Position feedback 1 value (2 word)
 S-0-0390 Diagnostic message number (2 word)
 Totalt 5 ord in

Real-Time output (MDT)

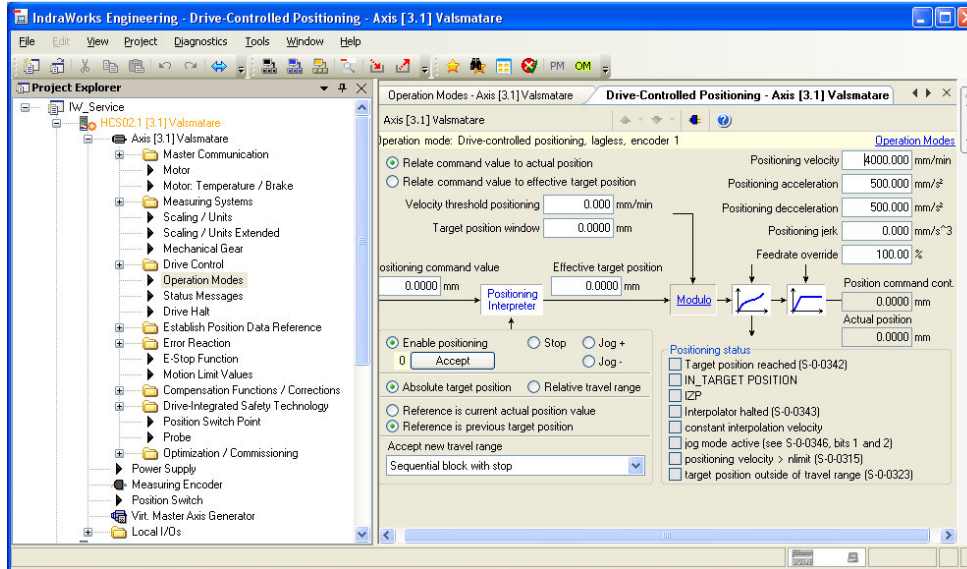
P-0-4077 Field bus: control word (1 word, Obligatorisk)
 S-0-0282 Positioning command value (2 word)
 S-0-0259 Positioning Velocity (2 word)
 S-0-0145 Signal control word (1 word)
 Totalt 6 ord ut

(För Motorola format, exempelvis Mitsubishi, Q-system. Ändra parameter P-0-4074 som bilden nedan visar och välj byteswapping i din PLC, detta för att få enkel/dubbel orden rätt.)



4. Under *Operating Modes* välj som Primary mode of operation *Drive-controlled positioning, lagless, encoder 1*

5. Tryck på knappen *Configuration – Configuration* borde nu se ut som följande



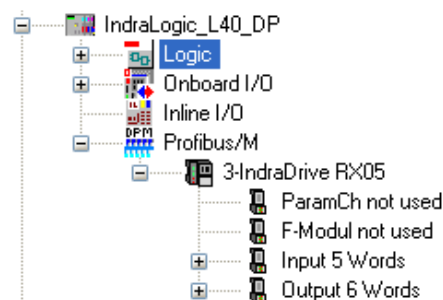
6. För att manuellt köra servot, se till att kraften (400V) är till och sätt bit 15, "Drive On" och 13, "Axel Halt" i control ordet, P-0-4077. Jog+ bit 6 samt Jog- bit 7. (För control och status word se nästa sida)

För positionering skicka "Position command value", S-0-0282, samt Positioning velocity, S-0-0259 och därefter flank ändra, start biten, bit 0, i P-0-4077. (Observera att start signalen exekveras både på positiv och negativ flank)

OBS: För att säkerställa uppstarts sekvensen använda bit 14 och 15 i P-0-4078 "Field bus status word". Kraften kan slås till när bit 14 är ett och 15 noll. Drive On kan sättas när bit 15 är ett och 14 noll.

PLC konfiguration

PLC konfigurationen ska se ut på följande sätt i DP-mastern. (Exemplet kommer från vår DP-master, IndraControl L40)



P-0-4077 Fieldbus control word

Bit	Designation/function
0	command value acceptance upon a change (S-0-0346, bit 0) - a positioning block is activated or - the command position is accepted
1	operating mode setting 0->1: change to operating mode 1->0: change to parameter mode
2	going to zero (S-0-0148) 0->1: start homing command "C6" 1->0: complete homing command "C6"
3	absolute / relative (S-0-0346, bit 3) (only effective when using S-0-0282, Positioning command value) 0: positioning command value (S-0-0282) is processed as absolute target position in the drive 1: positioning command value (S-0-0282) is processed as relative travel distance in the drive
4	immediate block change (S-0-0346, bit5) (only effective when using S-0-0282, Positioning command value) 0: positioning command value (S-0-0282) is only accepted after the last active target position was reached 1: positioning command value (S-0-0282) is immediately accepted upon toggling of command value acceptance
5	clear error (S-0-0099) 0->1: start error clearing command "C5" 1->0: complete command "C5"
7/6	positioning / jogging (S-0-0346 bit 2 + S-0-0346 bit 1) positioning activated by: 00: positioning active, start at change of bit 0 positioning aborted by: 01: infinite travel in positive direction (jog+) 10: infinite travel in negative direction (jog-)11: stopping the axis (positioning stop)
9/8	command operating mode (for SERCOS: S-0-0134, bit 8...9) 00: primary mode of operation 01: secondary oper. mode 1 (e.g. jogging) 10: secondary oper. mode 2 11: secondary oper. mode 3
12	IPOSYNC interpolator clock: interpolator clock (only in cycl. pos. control): toggles when new command values transmitted
13	Drive Halt (P-0-0116, bit13) 0->1: drive start 1->0: Drive Halt, i.e. the drive is immediately shut down (speed command value set to zero!)
14	drive enable (P-0-0116, bit14) Independent of P-0-4077, bit 14 of P-0-0116 is automatically set internally as soon as field bus communication is active!
15	drive ON (P-0-0116, bit15) 0->1: drive enable 1->0: best possible deceleration according to P-0-0119

Fig. 4-83: P-0-4077, Field bus: control word

P-0-4078 Fieldbus status word

Bit	Designation/function
1/0	operating mode acknowledgment 10: operating mode 01: no longer relevant as of MP*04VRS 00: parameter mode
2	in reference (status of reference encoder) (S-0-0403, bit 0) actual position value (encoder 1 or 2) is 0: relative 1: homed
3	in standstill (S-0-0331, bit 0) 1: actual velocity < standstill window IS-0-0040 < S-0-0124
4	command value reached for velocity control: 1: command speed reached (S-0-0330, bit 0) ... cyclic position control: 1: in position (S-0-0336, bit 0) ... drive-internal interpolation: 1: I(S-0-0258) - (S-0-0051/53) S-0-0057 (S-0-0437, bit 1) ... drive-controlled positioning: 1: I(S-0-0430) - (S-0-0051/53) S-0-0057 and "in position" (S-0-0336, bit 0) and "Nact = 0" (S-0-0331, bit 0); (S-0-0437, bit 2) ... positioning block mode: 1: "end position reached" (P-0-4061, bit 4) ... other operating modes: 1: "target position reached" (S-0-0342, bit 0)
5	command change bit 1: if command status has changed 0: if command status has not changed
6	operating mode error 1: error in transition command 0: no error in transition command
7	status of command value processing 1: drive does not follow command value input (e.g. when Drive Halt is active) 0: drive follows command value input (e.g. "AF" active)
9/8	actual operating mode (P-0-0116, bit 8...9) 00: primary mode of operation 01: secondary oper. mode 1 10: secondary oper. mode 2 11: secondary oper. mode 3
10	command value acknowledgment By toggling the bit (S-0-0419, bit 0) the drive acknowledges the acceptance of the "positioning command value" (S-0-0282).
11	class 3 diagnostics message (cf. S-0-0013) The bit is set if a class 3 diagnostics message is present.
12	class 2 diagnostics message (cf. S-0-0012) The bit is set if a class 2 diagnostics warning is present.
13	class 1 diagnostics drive error (cf. S-0-0011) The bit is set if a class 1 diagnostics error is present (drive interlock).
15/14	ready for operation (P-0-0116, bit 14/15) 00: not ready for power on (e.g. "P2") 01: ready for power on ("bb") 10: control and power sections ready for operation ("Ab") 11: in operation, with torque (e.g. "AF")

Fig. 4-84: P-0-4078, Field bus: status word