

Application Note	AN-MEGA-0019-v104EN
MEGA Servo function codes format and communications address	

Inverter type	FRENIC MEGA (-EAQ Type)
Software version	1700
Required options	OPC-G1-PG, OPC-G1-PG2, OPC-G1-PG22, OPC-G1-PMPG or OPC-G1-RES
Related documentation	MEGA Servo IM, SI47-1545-E
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Use	Public, Web
Date	25/11/2011
Version	1.0.4
Languages	English

1. Introduction.

MEGA Servo inverter is able to drive a PM Synchronous motor in closed loop control and has been provided with position control among other interesting additions. All of these new functions imply the use of new function codes. In this document, the communication characteristics (format and address) are described for all the function codes present in FRENIC MEGA Servo.

2. Description.

In the tables below, the different function codes are depicted. Modbus Address is both in hexadecimal and decimal formats (ModBus Area 4: Holding Registers). The address in case of using a FieldBus option (like DeviceNet or Profibus DP, same as standard MEGA) is depicted in the last column.

F codes: Fundamental Functions

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
F00	Data Protection	1	0x0000	4:00001	0x0400
F01	Frequency Command 1	1	0x0001	4:00002	0x0401
F02	Operation Method	1	0x0002	4:00003	0x0402
F03	Maximum Frequency 1	3	0x0003	4:00004	0x0403
F04	Base Frequency 1	3	0x0004	4:00005	0x0404
F05	Rated Voltage at Base Frequency 1	1	0x0005	4:00006	0x0405
F06	Maximum Output Voltage 1	1	0x0006	4:00007	0x0406
F07	Acceleration Time 1	12	0x0007	4:00008	0x0407
F08	Deceleration Time 1	12	0x0008	4:00009	0x0408
F09	Torque Boost 1	3	0x0009	4:00010	0x0409
F10	Electronic Thermal Overload Protection for Motor 1 (Select motor characteristics)	1	0x000A	4:00011	0x040A
F11	Electronic Thermal Overload Protection for Motor 1 (Overload detection level)	24(FGI) 19(RTU)	0x000B	4:00012	0x040B
F12	Electronic Thermal Overload Protection for Motor 1 (Thermal time constant)	3	0x000C	4:00013	0x040C
F14	Restart Mode after Momentary Power Failure (Mode selection)	1	0x000E	4:00015	0x040E
F15	Frequency Limiter (High)	3	0x000F	4:00016	0x040F
F16	Frequency Limiter (Low)	3	0x0010	4:00017	0x0410

F codes: Fundamental Functions (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
F18	Bias (Frequency command 1)	6	0x0012	4:00019	0x0412
F23	Starting Frequency 1	3	0x0017	4:00024	0x0417
F24	Starting Frequency 1 (Holding time)	5	0x0018	4:00025	0x0418
F25	Stop Frequency	3	0x0019	4:00026	0x0419
F26	Motor Sound (Carrier frequency)	1	0x001A	4:00027	0x041A
F27	Motor Sound (Tone)	1	0x001B	4:00028	0x041B
F29	Analog Output [FM1] (Mode selection)	1	0x001D	4:00030	0x041D
F30	Analog Output [FM1] (Voltage adjustment)	1	0x001E	4:00031	0x041E
F31	Analog Output [FM1] (Function)	1	0x001F	4:00032	0x041F
F32	Analog Output [FM2] (Mode selection)	1	0x0020	4:00033	0x0420
F34	Analog Output [FM2] (Voltage adjustment)	1	0x0022	4:00035	0x0422
F35	Analog Output [FM2] (Function)	1	0x0023	4:00036	0x0423
F38	Stop Frequency (Detection mode)	1	0x0026	4:00039	0x0426
F39	Stop Frequency (Holding Time)	5	0x0027	4:00040	0x0427
F40	Torque Limiter 1-1	2	0x0028	4:00041	0x0428
F41	Torque Limiter 1-2	2	0x0029	4:00042	0x0429
F42	Drive Control Selection 1	1	0x002A	4:00043	0x042A
F50	Electronic Thermal Overload Protection for Braking Resistor (Discharging capability)	1	0x0032	4:00051	0x0432
F51	Electronic Thermal Overload Protection for Braking Resistor (Allowable average loss)	45	0x0033	4:00052	0x0433
F52	Electronic Thermal Overload Protection for Braking Resistor (Resistance)	12	0x0034	4:00053	0x0434

E codes: Extension Terminal Functions

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
E01	Terminal [X1] Function	1	0x0101	4:00258	0x0501
E02	Terminal [X2] Function	1	0x0102	4:00259	0x0502
E03	Terminal [X3] Function	1	0x0103	4:00260	0x0503
E04	Terminal [X4] Function	1	0x0104	4:00261	0x0504
E05	Terminal [X5] Function	1	0x0105	4:00262	0x0505
E06	Terminal [X6] Function	1	0x0106	4:00263	0x0506
E07	Terminal [X7] Function	1	0x0107	4:00264	0x0507
E10	Acceleration Time 2	12	0x010A	4:00267	0x050A
E11	Deceleration Time 2	12	0x010B	4:00268	0x050B
E12	Acceleration Time 3	12	0x010C	4:00269	0x050C
E13	Deceleration Time 3	12	0x010D	4:00270	0x050D
E14	Acceleration Time 4	12	0x010E	4:00271	0x050E
E15	Deceleration Time 4	12	0x010F	4:00272	0x050F
E16	Torque Limiter 2-1	2	0x0110	4:00273	0x0510
E17	Torque Limiter 2-2	2	0x0111	4:00274	0x0511
E20	Terminal [Y1] Function	1	0x0114	4:00277	0x0514
E21	Terminal [Y2] Function	1	0x0115	4:00278	0x0515
E22	Terminal [Y3] Function	1	0x0116	4:00279	0x0516
E23	Terminal [Y4] Function	1	0x0117	4:00280	0x0517
E24	Terminal [Y5A/C] Function	1	0x0118	4:00281	0x0518
E27	Terminal [30A/B/C] Function (Relay output)	1	0x011B	4:00284	0x051B
E30	Frequency Arrival (Hysteresis width)	3	0x011E	4:00287	0x051E
E31	Frequency Detection 1 (Level)	3	0x011F	4:00288	0x051F
E32	Frequency Detection 1 (Hysteresis width)	3	0x0120	4:00289	0x0520
E34	Overload Early Warning/Current Detection (Level)	24(FGI) 19(RTU)	0x0122	4:00291	0x0522
E35	Overload Early Warning/Current Detection (Timer)	5	0x0123	4:00292	0x0523
E36	Frequency Detection 2 (Level)	3	0x0124	4:00293	0x0524
E37	Current Detection 2 /Low Current Detection (Level)	24(FGI) 19(RTU)	0x0125	4:00294	0x0525
E38	Current Detection 2 /Low Current Detection (Timer)	5	0x0126	4:00295	0x0526

E codes: Extension Terminal Functions (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
E40	PID Display Coefficient A	12	0x0128	4:00297	0x0528
E41	PID Display Coefficient B	12	0x0129	4:00298	0x0529
E42	LED Display Filter	3	0x012A	4:00299	0x052A
E43	LED Monitor (Item selection)	1	0x012B	4:00300	0x052B
E44	LED Monitor (Display when stopped)	1	0x012C	4:00301	0x052C
E45	LCD Monitor (Item selection)	1	0x012D	4:00302	0x052D
E46	LCD Monitor (Language selection)	1	0x012E	4:00303	0x052E
E47	LCD Monitor (Contrast control)	1	0x012F	4:00304	0x052F
E48	LED Monitor (Speed monitor item)	1	0x0130	4:00305	0x0530
E50	Coefficient for Speed Indication	5	0x0132	4:00307	0x0532
E51	Display Coefficient for Input Watt-hour Data	45	0x0133	4:00308	0x0533
E52	Keypad (Menu display mode)	1	0x0134	4:00309	0x0534
E54	Frequency Detection 3 (Level)	3	0x0136	4:00311	0x0536
E55	Current Detection 3 (Level)	24(FGI) 19(RTU)	0x0137	4:00312	0x0537
E56	Current Detection 3 (Timer)	5	0x0138	4:00313	0x0538
E61	Terminal [12] Extended Function	1	0x013D	4:00318	0x053D
E62	Terminal [C1] Extended Function	1	0x013E	4:00319	0x053E
E63	Terminal [V2] Extended Function	1	0x013F	4:00320	0x053F
E64	Saving of Digital Reference Frequency	1	0x0140	4:00321	0x0540
E65	Reference Loss Detection (Continuous running frequency)	1	0x0141	4:00322	0x0541
E78	Torque Detection 1 (Level)	1	0x014E	4:00335	0x054E
E79	Torque Detection 1 (Timer)	5	0x014F	4:00336	0x054F
E80	Torque Detection 2/Low Torque Detection (Level)	1	0x0150	4:00337	0x0550
E81	Torque Detection 2/Low Torque Detection (Timer)	5	0x0151	4:00338	0x0551
E98	Terminal [FWD] Function	1	0x0162	4:00355	0x0562
E99	Terminal [REV] Function	1	0x0163	4:00356	0x0563

C codes: Control Functions of Frequency

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
C01	Jump Frequency 1	3	0x0201	4:00514	0x0601
C02	Jump Frequency 2	3	0x0202	4:00515	0x0602
C03	Jump Frequency 3	3	0x0203	4:00516	0x0603
C04	Jump Frequency (Hysteresis)	3	0x0204	4:00517	0x0604
C05	Multi-Frequency 1	22	0x0205	4:00518	0x0605
C06	Multi-Frequency 2	22	0x0206	4:00519	0x0606
C07	Multi-Frequency 3	22	0x0207	4:00520	0x0607
C08	Multi-Frequency 4	22	0x0208	4:00521	0x0608
C09	Multi-Frequency 5	22	0x0209	4:00522	0x0609
C10	Multi-Frequency 6	22	0x020A	4:00523	0x060A
C11	Multi-Frequency 7	22	0x020B	4:00524	0x060B
C12	Multi-Frequency 8	22	0x020C	4:00525	0x060C
C13	Multi-Frequency 9	22	0x020D	4:00526	0x060D
C14	Multi-Frequency 10	22	0x020E	4:00527	0x060E
C15	Multi-Frequency 11	22	0x020F	4:00528	0x060F
C16	Multi-Frequency 12	22	0x0210	4:00529	0x0610
C17	Multi-Frequency 13	22	0x0211	4:00530	0x0611
C18	Multi-Frequency 14	22	0x0212	4:00531	0x0612
C19	Multi-Frequency 15	22	0x0213	4:00532	0x0613
C20	Jogging Frequency	22	0x0214	4:00533	0x0614
C30	Frequency Command 2	1	0x021E	4:00543	0x061E
C31	Analog Input Adjustment for [12] (offset)	4	0x021F	4:00544	0x061F
C32	Analog Input Adjustment for [12] (Gain)	5	0x0220	4:00545	0x0620
C33	Analog input Adjustment for [12] (Filter time constant)	5	0x0221	4:00546	0x0621
C34	Analog input Adjustment for [12] (Gain base point)	5	0x0222	4:00547	0x0622
C35	Analog input Adjustment for [12] (Polarity)	1	0x0223	4:00548	0x0623

C codes: Control Functions of Frequency (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
C36	Analog Input Adjustment for [C1] (Offset)	4	0x0224	4:00549	0x0624
C37	Analog Input Adjustment for [C1] (Gain)	5	0x0225	4:00550	0x0625
C38	Analog input Adjustment for [C1] (Filter time constant)	5	0x0226	4:00551	0x0626
C39	Analog input Adjustment for [C1] (Gain base point)	5	0x0227	4:00552	0x0627
C40	Terminal[C1] Range selection	1	0x0228	4:00553	0x0628
C41	Analog Input Adjustment for [V2] (Offset)	4	0x0229	4:00554	0x0629
C42	Analog Input Adjustment for [V2] (Gain)	5	0x022A	4:00555	0x062A
C43	Analog input Adjustment for [V2] (Filter time constant)	5	0x022B	4:00556	0x062B
C44	Analog input Adjustment for [V2] (Gain base point)	5	0x022C	4:00557	0x062C
C45	Analog input Adjustment for [V2] (Polarity)	1	0x022D	4:00558	0x062D
C50	Bias (Frequency command 1) (Bias base point)	5	0x0232	4:00563	0x0632
C51	Bias (PID command 1) (Bias value)	6	0x0233	4:00564	0x0633
C52	Bias (PID command 1) (Bias base point)	5	0x0234	4:00565	0x0634
C53	Selection of Normal/Inverse Operation (Frequency command 1)	1	0x0235	4:00566	0x0635

P codes: Motor 1 Parameters

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
P01	Motor 1 (No. of poles)	1	0x0301	4:00770	0x0701
P02	Motor 1 (Rated Capacity)	11	0x0302	4:00771	0x0702
P03	Motor 1 (Rated current)	24(FGI) 19(RTU)	0x0303	4:00772	0x0703
P04	Motor 1 (Auto-tuning)	21	0x0304	4:00773	0x0704
P06	Motor 1 (No-load current)	24(FGI) 19(RTU)	0x0306	4:00775	0x0706
P07	Motor 1 (%R1)	5	0x0307	4:00776	0x0707
P08	Motor 1 (%X)	5	0x0308	4:00777	0x0708
P09	Motor 1 (Slip compensation gain for driving)	3	0x0309	4:00778	0x0709
P11	Motor 1 (Slip compensation gain for braking)	3	0x030B	4:00780	0x070B
P12	Motor 1 (Rated slip frequency)	5	0x030C	4:00781	0x070C
P13	Motor 1 (Iron loss factor 1)	5	0x030D	4:00782	0x070D
P14	Motor 1 (Iron loss factor 2)	5	0x030E	4:00783	0x070E
P15	Motor 1 (Iron loss factor 3)	5	0x030F	4:00784	0x070F
P16	Motor 1 (Magnetic saturation factor 1)	3	0x0310	4:00785	0x0710
P17	Motor 1 (Magnetic saturation factor 2)	3	0x0311	4:00786	0x0711
P18	Motor 1 (Magnetic saturation factor 3)	3	0x0312	4:00787	0x0712
P19	Motor 1 (Magnetic saturation factor 4)	3	0x0313	4:00788	0x0713
P20	Motor 1 (Magnetic saturation factor 5)	3	0x0314	4:00789	0x0714
P21	Motor 1 (Magnetic saturation extension factor a)	3	0x0315	4:00790	0x0715
P22	Motor 1 (Magnetic saturation extension factor b)	3	0x0316	4:00791	0x0716
P23	Motor 1 (Magnetic saturation extension factor c)	3	0x0317	4:00792	0x0717
P24	Reserved	5	0x0318	4:00793	0x0718
P30	Motor 1 (Start support mode)	1	0x031E	4:00799	0x071E
P53	Motor 1 (%X correction factor 1)	1	0x0335	4:00822	0x0735
P54	Motor 1 (%X correction factor 2)	1	0x0336	4:00823	0x0736
P55	Motor 1 (Torque current under vector control)	24(FGI) 19(RTU)	0x0337	4:00824	0x0737
P56	Motor 1 (Induced voltage factor under vector control)	1	0x0338	4:00825	0x0738
P60	Motor 1 (Armature resistance)	45	0x033C	4:00829	0x073C
P61	Motor 1 (d-axis inductance)	24	0x033D	4:00830	0x073D
P62	Motor 1 (q-axis inductance)	24	0x033E	4:00831	0x073E
P63	Motor 1 (Induced voltage)	1	0x033F	4:00832	0x073F
P64	Motor 1 (Iron loss)	3	0x0340	4:00833	0x0740
P65	Motor 1 (d-axis inductance magnetic saturation correction)	3	0x0341	4:00834	0x0741
P74	Motor 1 (Reference current at starting)	1	0x034A	4:00843	0x074A

P codes: Motor 1 Parameters (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
P84	Reserved	3	0x0354	4:00853	0x0754
P85	Motor 1 (Flux limitation value)	3	0x0355	4:00854	0x0755
P86	Reserved	3	0x0356	4:00855	0x0756
P87	Motor 1 (Reference current for NS discrimination)	1	0x0357	4:00856	0x0757
P88	Reserved	1	0x0358	4:00857	0x0758
P90	Motor 1 (Over current protection level)	24(FGI) 19(RTU)	0x035A	4:00859	0x075A
P95	Motor 1 (Magnetic pole position sensor offset)	3	0x035F	4:00864	0x075F

H codes: High Performance Functions

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
H03	Data Initialization	1	0x0403	4:01028	0x0803
H04	Auto-reset (Times)	1	0x0404	4:01029	0x0804
H05	Auto-reset (Reset interval)	3	0x0405	4:01030	0x0805
H06	Cooling Fan ON/OFF Control	1	0x0406	4:01031	0x0806
H07	Acceleration/Deceleration Pattern	1	0x0407	4:01032	0x0807
H08	Rotational Direction Limitation	1	0x0408	4:01033	0x0808
H11	Deceleration Mode	1	0x040B	4:01036	0x080B
H13	Restart Mode after Momentary Power Failure (Restart time)	3	0x040D	4:01038	0x080D
H15	Restart Mode after Momentary Power Failure (Continuous running level)	1	0x040F	4:01040	0x080F
H16	Restart Mode after Momentary Power Failure (Allowable momentary power failure time)	3	0x0410	4:01041	0x0810
H18	Torque Control (Mode selection)	1	0x0412	4:01043	0x0812
H26	Thermistor (for motor) (Mode selection)	1	0x041A	4:01051	0x081A
H27	Thermistor (for motor) (Level)	5	0x041B	4:01052	0x081B
H28	Droop control	4	0x041C	4:01053	0x081C
H30	Communications Link Function (Mode selection)	1	0x041E	4:01055	0x081E
H42	Capacitance of DC Link Bus Capacitor	1	0x042A	4:01067	0x082A
H43	Cumulative Run Time of Cooling Fan	1	0x042B	4:01068	0x082B
H44	Startup Counter for Motor 1	1	0x042C	4:01069	0x082C
H45	Mock Alarm	1	0x042D	4:01070	0x082D
H47	Initial Capacitance of DC Link Bus Capacitor	1	0x042F	4:01072	0x082F
H48	Cumulative Run Time of Capacitors on Printed Circuit Boards	1	0x0430	4:01073	0x0830
H50	Non-linear V/f Pattern 1 (Frequency)	3	0x0432	4:01075	0x0832
H51	Non-linear V/f Pattern 1 (Voltage)	1	0x0433	4:01076	0x0833
H54	Acceleration Time (Jogging)	12	0x0436	4:01079	0x0836
H55	Deceleration Time (Jogging)	12	0x0437	4:01080	0x0837
H56	Deceleration Time for Forced Stop	12	0x0438	4:01081	0x0838
H57	1st S-curve acceleration range (Leading edge)	1	0x0439	4:01082	0x0839
H58	2nd S-curve acceleration range (Trailing edge)	1	0x043A	4:01083	0x083A
H59	1st S-curve deceleration range (Leading edge)	1	0x043B	4:01084	0x083B
H60	2nd S-curve deceleration range (Trailing edge)	1	0x043C	4:01085	0x083C
H61	UP/DOWN Control (Initial frequency setting)	1	0x043D	4:01086	0x083D
H63	Low Limiter (Mode selection)	1	0x043F	4:01088	0x083F
H64	Low Limiter (Lower limiting frequency)	3	0x0440	4:01089	0x0840
H69	Automatic Deceleration (Mode selection)	1	0x0445	4:01094	0x0845
H71	Deceleration Characteristics	1	0x0447	4:01096	0x0847
H72	Main Power Down Detection (Mode selection)	1	0x0448	4:01097	0x0848
H73	Torque Limiter (Operating conditions)	1	0x0449	4:01098	0x0849
H74	Torque Limiter (Control target)	1	0x044A	4:01099	0x084A
H75	Torque Limiter (Target quadrants)	1	0x044B	4:01100	0x084B
H77	Service Life of DC Link Bus Capacitor (Remaining time)	74	0x044D	4:01102	0x084D
H78	Maintenance Interval (M1)	74	0x044E	4:01103	0x084E
H79	Preset Startup Count for Maintenance (M1)	1	0x044F	4:01104	0x084F
H81	Light Alarm Selection 1	1	0x0451	4:01106	0x0851
H82	Light Alarm Selection 2	1	0x0452	4:01107	0x0852
H84	Pre-excitation (Initial level)	1	0x0454	4:01109	0x0854
H85	Pre-excitation (Time)	5	0x0455	4:01110	0x0855

H codes: High Performance Functions (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
H86	Reserved	1	0x0456	4:01111	0x0856
H87	Reserved	3	0x0457	4:01112	0x0857
H88	Reserved	1	0x0458	4:01113	0x0858
H89	Reserved	1	0x0459	4:01114	0x0859
H90	Reserved	1	0x045A	4:01115	0x085A
H91	PID Feedback Wire Break Detection	3	0x045B	4:01116	0x085B
H92	Continuity of Running (P)	7	0x045C	4:01117	0x085C
H93	Continuity of Running (I)	7	0x045D	4:01118	0x085D
H94	Cumulative Motor Run Time 1	1	0x045E	4:01119	0x085E
H96	STOP Key Priority / Start Check Function	1	0x0460	4:01121	0x0860
H97	Clear Alarm Data	1	0x0461	4:01122	0x0861
H98	Protection / Maintenance Function (Mode selection)	1	0x0462	4:01123	0x0862

A codes: Motor 2 Parameters

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
A43	Speed Control 2 (Speed command filter)	7	0x052B	4:01324	0x092B
A44	Speed Control 2 (Speed detection filter)	7	0x052C	4:01325	0x092C
A45	Speed Control 2 P (Gain)	3	0x052D	4:01326	0x092D
A46	Speed Control 2 I (Integral time)	7	0x052E	4:01327	0x092E
A47	Speed Control 2 (Feed forward gain)	5	0x052F	4:01328	0x092F
A48	Speed Control 2 (Output filter)	7	0x0530	4:01329	0x0930
A49	Speed Control 2 (Notch filter resonance frequency)	1	0x0531	4:01330	0x0931
A50	Speed Control 2 (Notch filter attenuation level)	1	0x0532	4:01331	0x0932

b codes: Motor 3 Parameters

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
b43	Speed Control 3 (Speed command filter)	7	0x122B	4:04652	0x132B
b44	Speed Control 3 (Speed detection filter)	7	0x122C	4:04653	0x132C
b45	Speed Control 3 P (Gain)	3	0x122D	4:04654	0x132D
b46	Speed Control 3 I (Integral time)	7	0x122E	4:04655	0x132E
b47	Speed Control 3 (Feed forward gain)	5	0x122F	4:04656	0x132F
b48	Speed Control 3 (Output filter)	7	0x1230	4:04657	0x1330
b49	Speed Control 3 (Notch filter resonance frequency)	1	0x1231	4:04658	0x1331
b50	Speed Control 3 (Notch filter attenuation level)	1	0x1232	4:04659	0x1332

r codes: Motor 4 Parameters

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
r43	Speed Control 4 (Speed command filter)	7	0x0A2B	4:02604	0x0C2B
r44	Speed Control 4 (Speed detection filter)	7	0x0A2C	4:02605	0x0C2C
r45	Speed Control 4 P (Gain)	3	0x0A2D	4:02606	0x0C2D
r46	Speed Control 4 I (Integral time)	7	0x0A2E	4:02607	0x0C2E
r47	Speed Control 4 (Feed forward gain)	5	0x0A2F	4:02608	0x0C2F
r48	Speed Control 4 (Output filter)	7	0x0A30	4:02609	0x0C30
r49	Speed Control 4 (Notch filter resonance frequency)	1	0x0A31	4:02610	0x0C31
r50	Speed Control 4 (Notch filter attenuation level)	1	0x0A32	4:02611	0x0C32

J codes: Application Functions 1

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
J01	PID Control (Mode selection)	1	0x0D01	4:03330	0x0E01
J02	PID Control (Remote command SV)	1	0x0D02	4:03331	0x0E02
J03	PID Control P (Gain)	7	0x0D03	4:03332	0x0E03
J04	PID Control I (Integral time)	3	0x0D04	4:03333	0x0E04
J05	PID Control D (Differential time)	5	0x0D05	4:03334	0x0E05
J06	PID Control (Feedback filter)	3	0x0D06	4:03335	0x0E06
J08	PID Control (Pressurization starting frequency)	3	0x0D08	4:03337	0x0E08
J09	PID Control (Pressurizing time)	1	0x0D09	4:03338	0x0E09

J codes: Application Functions 1

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
J10	PID Control (Anti reset windup)	1	0x0D0A	4:03339	0x0E0A
J11	PID Control (Select alarm output)	1	0x0D0B	4:03340	0x0E0B
J12	PID Control (Upper level alarm (AH))	2	0x0D0C	4:03341	0x0E0C
J13	PID Control (Lower level alarm (AL))	2	0x0D0D	4:03342	0x0E0D
J15	PID Control (Stop frequency for slow flowrate)	3	0x0D0F	4:03344	0x0E0F
J16	PID Control (Slow flowrate level stop latency)	1	0x0D10	4:03345	0x0E10
J17	PID Control (Starting frequency)	3	0x0D11	4:03346	0x0E11
J18	PID Control (Upper limit of PID process output)	2	0x0D12	4:03347	0x0E12
J19	PID Control (Lower limit of PID process output)	2	0x0D13	4:03348	0x0E13
J56	PID Control (Speed command filter)	5	0x0D38	4:03385	0x0E38
J57	PID Control (Dancer reference position)	2	0x0D39	4:03386	0x0E39
J58	PID control (Detection width of dancer position deviation)	1	0x0D3A	4:03387	0x0E3A
J59	PID Control P (Gain) 2	7	0x0D3B	4:03388	0x0E3B
J60	PID Control I (Integral time) 2	3	0x0D3C	4:03389	0x0E3C
J61	PID Control D (Differential time) 2	5	0x0D3D	4:03390	0x0E3D
J62	PID Control (PID control block selection)	1	0x0D3E	4:03391	0x0E3E
J68	Brake Signal (Brake-Release current)	1	0x0D44	4:03397	0x0E44
J70	Brake Signal (Brake-Release timer)	5	0x0D46	4:03399	0x0E46
J71	Brake Signal (Brake-Apply frequency/speed)	5	0x0D47	4:03400	0x0E47
J72	Brake Signal (Brake-Apply timer)	5	0x0D48	4:03401	0x0E48
J94	Brake Signal (Brake-Release condition)	1	0x0D5E	4:03423	0x0E5E
J95	Brake Signal (Brake-Release torque)	1	0x0D5F	4:03424	0x0E5F
J96	Brake Signal (Brake-Apply condition)	1	0x0D60	4:03425	0x0E60
J97	Servo-lock (Gain)	5	0x0D61	4:03426	0x0E61
J98	Servo-lock (Completion timer)	7	0x0D62	4:03427	0x0E62
J99	Servo-lock (Completion range)	1	0x0D63	4:03428	0x0E63

d codes: Application Functions 2

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
d01	Speed Control 1 (Speed command filter)	7	0x1301	4:04866	0x1401
d02	Speed Control 1 (Speed detection filter)	7	0x1302	4:04867	0x1402
d03	Speed Control 1 P (Gain)	3	0x1303	4:04868	0x1403
d04	Speed Control 1 I (Integral time)	7	0x1304	4:04869	0x1404
d05	Speed Control 1 (Feed forward gain)	5	0x1305	4:04870	0x1405
d06	Speed Control 1 (Output filter)	7	0x1306	4:04871	0x1406
d07	Speed Control 1 (Notch filter resonance frequency)	1	0x1307	4:04872	0x1407
d08	Speed Control 1 (Notch filter attenuation level)	1	0x1308	4:04873	0x1408
d09	Speed Control (Jogging) (Speed command filter)	7	0x1309	4:04874	0x1409
d10	Speed Control (Jogging) (Speed detection filter)	7	0x130A	4:04875	0x140A
d11	Speed Control (Jogging) P (Gain)	3	0x130B	4:04876	0x140B
d12	Speed Control (Jogging) I (Integral time)	7	0x130C	4:04877	0x140C
d13	Speed Control (Jogging) (Output filter)	7	0x130D	4:04878	0x140D
d14	Feedback Input (Pulse input format)	1	0x130E	4:04879	0x140E
d15	Feedback Input (Encoder pulse resolution)	1	0x130F	4:04880	0x140F
d18	Reserved	1	0x1312	4:04883	0x1412
d19	Reserved	5	0x1313	4:04884	0x1413
d20	Reserved	7	0x1314	4:04885	0x1414
d21	Speed Agreement/PG Error (Hysteresis width)	3	0x1315	4:04886	0x1415
d22	Speed Agreement/PG Error (Detection timer)	5	0x1316	4:04887	0x1416
d23	PG Error Processing	1	0x1317	4:04888	0x1417
d24	Zero Speed Control	1	0x1318	4:04889	0x1418
d25	ASR Switching Time	7	0x1319	4:04890	0x1419
d26	ASR Switching Frequency (Low speed)	5	0x131A	4:04891	0x141A
d32	Torque Control (Speed limit 1)	1	0x1320	4:04897	0x1420
d33	Torque Control (Speed limit 2)	1	0x1321	4:04898	0x1421
d35	Overspeed Detection Level	1	0x1323	4:04900	0x1423
d41	Application-defined Control	1	0x1329	4:04906	0x1429
d51	Reserved	1	0x1333	4:04916	0x1433
d55	Reserved	1	0x1337	4:04920	0x1437

d codes: Application Functions 2 (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
d59	Command (Pulse Rate Input) (Pulse input format)	1	0x133B	4:04924	0x143B
d60	Command (Pulse Rate Input) (Encoder pulse resolution)	1	0x133C	4:04925	0x143C
d61	Command (Pulse Rate Input) (Filter time constant)	7	0x133D	4:04926	0x143D
d62	Command (Pulse Rate Input) (Pulse count factor 1)	1	0x133E	4:04927	0x143E
d63	Command (Pulse Rate Input) (Pulse count factor 2)	1	0x133F	4:04928	0x143F
d69	Reserved	3	0x1345	4:04934	0x1445
d71	Synchronous Operation (Main speed regulator gain)	5	0x1347	4:04936	0x1447
d72	Synchronous Operation (APR P gain)	5	0x1348	4:04937	0x1448
d73	Synchronous Operation (APR positive outputlimiter)	1	0x1349	4:04938	0x1449
d74	Synchronous Operation (APR negative outputlimiter)	1	0x134A	4:04939	0x144A
d75	Synchronous Operation (Z phase alignment gain)	5	0x134B	4:04940	0x144B
d76	Synchronous Operation (Synchronous offset angle)	1	0x134C	4:04941	0x144C
d77	Synchronous Operation (Synchronization completion detection angle)	1	0x134D	4:04942	0x144D
d78	Synchronous Operation (Excessive deviation detection range)	1	0x134E	4:04943	0x144E
d79	Reserved	1	0x134F	4:04944	0x144F
d80	Magnetic Pole Position Pull-in Frequency	3	0x1350	4:04945	0x1450
d89	High Efficiency Control for PMSM	1	0x1359	4:04954	0x1459
d90	Magnetic Flux Level During Deceleration(Vector control)	1	0x135A	4:04955	0x145A
d91	Reserved	5	0x135B	4:04956	0x145B
d93	Reserved	5	0x135D	4:04958	0x145D
d94	Reserved	5	0x135E	4:04959	0x145E
d95	Reserved	5	0x135F	4:04960	0x145F
d96	Reserved	4	0x1360	4:04961	0x1460
d97	Reserved	4	0x1361	4:04962	0x1461
d99	Reserved	1	0x1363	4:04964	0x1463

U codes: Application Functions 3

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
U00	Customizable Logic (Mode selection)	1	0x0B00	4:02817	0x0D00
U01	Customizable Logic Step 1 (Input 1)	1	0x0B01	4:02818	0x0D01
U02	Customizable Logic Step 1 (Input 2)	1	0x0B02	4:02819	0x0D02
U03	Customizable Logic Step 1 (Logic circuit)	1	0x0B03	4:02820	0x0D03
U04	Customizable Logic Step 1 (Type of timer)	1	0x0B04	4:02821	0x0D04
U05	Customizable Logic Step 1 (Timer)	5	0x0B05	4:02822	0x0D05
U06	Customizable Logic Step 2 (Input 1)	1	0x0B06	4:02823	0x0D06
U07	Customizable Logic Step 2 (Input 2)	1	0x0B07	4:02824	0x0D07
U08	Customizable Logic Step 2 (Logic circuit)	1	0x0B08	4:02825	0x0D08
U09	Customizable Logic Step 2 (Type of timer)	1	0x0B09	4:02826	0x0D09
U10	Customizable Logic Step 2 (Timer)	5	0x0B0A	4:02827	0x0D0A
U11	Customizable Logic Step 3 (Input 1)	1	0x0B0B	4:02828	0x0D0B
U12	Customizable Logic Step 3 (Input 2)	1	0x0B0C	4:02829	0x0D0C
U13	Customizable Logic Step 3 (Logic circuit)	1	0x0B0D	4:02830	0x0D0D
U14	Customizable Logic Step 3 (Type of timer)	1	0x0B0E	4:02831	0x0D0E
U15	Customizable Logic Step 3 (Timer)	5	0x0B0F	4:02832	0x0D0F
U16	Customizable Logic Step 4 (Input 1)	1	0x0B10	4:02833	0x0D10
U17	Customizable Logic Step 4 (Input 2)	1	0x0B11	4:02834	0x0D11
U18	Customizable Logic Step 4 (Logic circuit)	1	0x0B12	4:02835	0x0D12
U19	Customizable Logic Step 4 (Type of timer)	1	0x0B13	4:02836	0x0D13
U20	Customizable Logic Step 4 (Timer)	5	0x0B14	4:02837	0x0D14
U21	Customizable Logic Step 5 (Input 1)	1	0x0B15	4:02838	0x0D15
U22	Customizable Logic Step 5 (Input 2)	1	0x0B16	4:02839	0x0D16
U23	Customizable Logic Step 5 (Logic circuit)	1	0x0B17	4:02840	0x0D17
U24	Customizable Logic Step 5 (Type of timer)	1	0x0B18	4:02841	0x0D18
U25	Customizable Logic Step 5 (Timer)	5	0x0B19	4:02842	0x0D19
U26	Customizable Logic Step 6 (Input 1)	1	0x0B1A	4:02843	0x0D1A
U27	Customizable Logic Step 6 (Input 2)	1	0x0B1B	4:02844	0x0D1B

U codes: Application Functions 3 (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
U28	Customizable Logic Step 6 (Logic circuit)	1	0B1C	4:02845	0D1C
U29	Customizable Logic Step 6 (Type of timer)	1	0B1D	4:02846	0D1D
U30	Customizable Logic Step 6 (Timer)	5	0B1E	4:02847	0D1E
U31	Customizable Logic Step 7 (Input 1)	1	0B1F	4:02848	0D1F
U32	Customizable Logic Step 7 (Input 2)	1	0B20	4:02849	0D20
U33	Customizable Logic Step 7 (Logic circuit)	1	0B21	4:02850	0D21
U34	Customizable Logic Step 7 (Type of timer)	1	0B22	4:02851	0D22
U35	Customizable Logic Step 7 (Timer)	5	0B23	4:02852	0D23
U36	Customizable Logic Step 8 (Input 1)	1	0B24	4:02853	0D24
U37	Customizable Logic Step 8 (Input 2)	1	0B25	4:02854	0D25
U38	Customizable Logic Step 8 (Logic circuit)	1	0B26	4:02855	0D26
U39	Customizable Logic Step 8 (Type of timer)	1	0B27	4:02856	0D27
U40	Customizable Logic Step 8 (Timer)	5	0B28	4:02857	0D28
U41	Customizable Logic Step 9 (Input 1)	1	0B29	4:02858	0D29
U42	Customizable Logic Step 9 (Input 2)	1	0B2A	4:02859	0D2A
U43	Customizable Logic Step 9 (Logic circuit)	1	0B2B	4:02860	0D2B
U44	Customizable Logic Step 9 (Type of timer)	1	0B2C	4:02861	0D2C
U45	Customizable Logic Step 9 (Timer)	5	0B2D	4:02862	0D2D
U46	Customizable Logic Step 10 (Input 1)	1	0B2E	4:02863	0D2E
U47	Customizable Logic Step 10 (Input 2)	1	0B2F	4:02864	0D2F
U48	Customizable Logic Step 10 (Logic circuit)	1	0B30	4:02865	0D30
U49	Customizable Logic Step 10 (Type of timer)	1	0B31	4:02866	0D31
U50	Customizable Logic Step 10 (Timer)	5	0B32	4:02867	0D32
U71	Customizable Logic Output Signal 1 (Output selection)	1	0B47	4:02888	0D47
U72	Customizable Logic Output Signal 2 (Output selection)	1	0B48	4:02889	0D48
U73	Customizable Logic Output Signal 3 (Output selection)	1	0B49	4:02890	0D49
U74	Customizable Logic Output Signal 4 (Output selection)	1	0B4A	4:02891	0D4A
U75	Customizable Logic Output Signal 5 (Output selection)	1	0B4B	4:02892	0D4B
U81	Customizable Logic Output Signal 1 (Function selection)	1	0B51	4:02898	0D51
U82	Customizable Logic Output Signal 2 (Function selection)	1	0B52	4:02899	0D52
U83	Customizable Logic Output Signal 3 (Function selection)	1	0B53	4:02900	0D53
U84	Customizable Logic Output Signal 4 (Function selection)	1	0B54	4:02901	0D54
U85	Customizable Logic Output Signal 5 (Function selection)	1	0B55	4:02902	0D55
U91	Customizable Logic Timer Monitor (Step selection)	1	0B5B	4:02908	0D5B

y codes: LINK Functions

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
y01	RS-485 Communication 1 (Station address)	1	0x0E01	4:03586	0x0F01
y02	RS-485 Communication 1 (Communications error processing)	1	0x0E02	4:03587	0x0F02
y03	RS-485 Communication 1 (Timer)	3	0x0E03	4:03588	0x0F03
y04	RS-485 Communication 1 (Baud rate)	1	0x0E04	4:03589	0x0F04
y05	RS-485 Communication 1 (Data length)	1	0x0E05	4:03590	0x0F05
y06	RS-485 Communication 1 (Parity check)	1	0x0E06	4:03591	0x0F06
y07	RS-485 Communication 1 (Stop bits)	1	0x0E07	4:03592	0x0F07
y08	RS-485 Communication 1 (No-response error detection time)	1	0x0E08	4:03593	0x0F08
y09	RS-485 Communication 1 (Response interval)	5	0x0E09	4:03594	0x0F09
y10	RS-485 Communication 1 (Protocol selection)	1	0x0E0A	4:03595	0x0F0A
y11	RS-485 Communication 2 (Station address)	1	0x0E0B	4:03596	0x0F0B
y12	RS-485 Communication 2 (Communications error processing)	1	0x0E0C	4:03597	0x0F0C
y13	RS-485 Communication 2 (Timer)	3	0x0E0D	4:03598	0x0F0D
y14	RS-485 Communication 2 (Baud rate)	1	0x0E0E	4:03599	0x0F0E
y15	RS-485 Communication 2 (Data length)	1	0x0E0F	4:03600	0x0F0F
y16	RS-485 Communication 2 (Parity check)	1	0x0E10	4:03601	0x0F10
y17	RS-485 Communication 2 (Stop bits)	1	0x0E11	4:03602	0x0F11
y18	RS-485 Communication 2 (No-response error detection time)	1	0x0E12	4:03603	0x0F12
y19	RS-485 Communication 2 (Response interval)	5	0x0E13	4:03604	0x0F13
y20	RS-485 Communication 2 (Protocol selection)	1	0x0E14	4:03605	0x0F14

y codes: LINK Functions (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
y97	Communication Data Storage Selection	1	0x0E61	4:03682	0x0F61
y98	Bus Link Function (Mode selection)	1	0x0E62	4:03683	0x0F62
y99	Loader Link Function (Mode selection)	1	0x0E63	4:03684	0x0F63

L codes: Position Control Functions

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
L01	Positioning Frequency 1	3	0x0901	4:02306	0x0B01
L02	Positioning Data 1 upper 4 digits	73	0x0902	4:02307	0x0B02
L03	Positioning Data 1 lower 4 digits	1	0x0903	4:02308	0x0B03
L04	Positioning Frequency 2	3	0x0904	4:02309	0x0B04
L05	Positioning Data 2 upper 4 digits	73	0x0905	4:02310	0x0B05
L06	Positioning Data 2 lower 4 digits	1	0x0906	4:02311	0x0B06
L07	Positioning Completion Range	1	0x0907	4:02312	0x0B07
L08	Command Pulse Ratio	5	0x0908	4:02313	0x0B08
L10	Return-to-Origin Frequency	3	0x090A	4:02315	0x0B0A
L11	Return-to-Origin Creep Frequency	3	0x090B	4:02316	0x0B0B
L12	Return-to-Origin Start Direction	1	0x090C	4:02317	0x0B0C
L13	Return-to-Origin Run Direction	1	0x090D	4:02318	0x0B0D
L14	Action for Overtravel Detected during Return-to-Origin Run	1	0x090E	4:02319	0x0B0E
L15	Reference Signal for Origin Shift Amount	1	0x090F	4:02320	0x0B0F
L16	Reference Signal for Origin	1	0x0910	4:02321	0x0B10
L17	Detection Timing of Origin Limit Switch	1	0x0911	4:02322	0x0B11
L18	Origin Shift Amount upper 4 digits	1	0x0912	4:02323	0x0B12
L19	Origin Shift Amount lower 4 digits	1	0x0913	4:02324	0x0B13
L20	Origin Detection Range	1	0x0914	4:02325	0x0B14
L21	Return-to-Origin Position upper 4 digits	73	0x0915	4:02326	0x0B15
L22	Return-to-Origin Position lower 4 digits	1	0x0916	4:02327	0x0B16
L25	Preset Position upper 4 digits	73	0x0919	4:02330	0x0B19
L26	Preset Position lower 4 digits	1	0x091A	4:02331	0x0B1A
L27	Positioning Completed Range 2	1	0x091B	4:02332	0x0B1B
L28	Positioning Data select (COM)	1	0x091C	4:02333	0x0B1C
L29	Positioning Data (COM)	2	0x091D	4:02334	0x0B1D
L30	Positioning Command Pulse Filter	7	0x091E	4:02335	0x0B1E
L31	Positioning Loop Gain	3	0x091F	4:02336	0x0B1F
L32	Positioning Loop Gain 2	3	0x0920	4:02337	0x0B20
L33	Positioning Loop Gain Switch Frequency	3	0x0921	4:02338	0x0B21
L35	Positioning Feedforward Gain (Deceleration to a stop)	5	0x0923	4:02340	0x0B23
L36	Positioning Feedforward Command Filter	7	0x0924	4:02341	0x0B24
L37	Positioning Feedforward Gain (Acceleration/Running at constant speed)	5	0x0925	4:02342	0x0B25
L38	Antiresonance Frequency	5	0x0926	4:02343	0x0B26
L39	Attenuation Ratio	5	0x0927	4:02344	0x0B27
L40	Numerator of Electronic Gear	1	0x0928	4:02345	0x0B28
L41	Denominator of Electronic Gear	1	0x0929	4:02346	0x0B29
L42	Selection of Distance Sensor	1	0x092A	4:02347	0x0B2A
L43	Distance Sensor Pulse Conversion Coefficient 1	1	0x092B	4:02348	0x0B2B
L44	Distance Sensor Pulse Conversion Coefficient 2	1	0x092C	4:02349	0x0B2C
L45	Distance Sensor Detection Filter	7	0x092D	4:02350	0x0B2D
L46	Distance Sensor Offset upper 4 digits	73	0x092E	4:02351	0x0B2E
L47	Distance Sensor Offset lower 4 digits	1	0x092F	4:02352	0x0B2F
L48	Positioning Command Definition	1	0x0930	4:02353	0x0B30
L50	Software Overtravel Detection Position in the Positive Direction upper 4 digits	73	0x0932	4:02355	0x0B32
L51	Software Overtravel Detection Position in the Positive Direction lower 4 digits	1	0x0933	4:02356	0x0B33
L52	Software Overtravel Detection Position in the Negative Direction upper 4 digits	73	0x0934	4:02357	0x0B34
L53	Software Overtravel Detection Position in the Negative Direction lower 4 digits	1	0x0935	4:02358	0x0B35

L codes: Position Control Functions (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
L54	Excessive Positioning Deviation Detection Level upper 4 digits	1	0x0936	4:02359	0x0B36
L55	Excessive Positioning Deviation Detection Level lower 4 digits	1	0x0937	4:02360	0x0B37
L56	Error Processing for Distance Sensor Failure	1	0x0938	4:02361	0x0B38
L57	Distance Sensor Compensation Value Deviation Detection Level upper 4 digits	1	0x0939	4:02362	0x0B39
L58	Distance Sensor Compensation Value Deviation Detection Level under 4 digits	1	0x093A	4:02363	0x0B3A
L59	Distance Sensor Compensation Value Monitor upper 4 digits	73	0x093B	4:02364	0x0B3B
L60	Distance Sensor Compensation Value Monitor under 4 digits	1	0x093C	4:02365	0x0B3C
L61	Distance Sensor Compensation Value Derivation Detection Time	7	0x093D	4:02366	0x0B3D
L68	Target Position Monitor upper 4 digits	73	0x0944	4:02373	0x0B44
L69	Target Position Monitor under 4 digits	1	0x0945	4:02374	0x0B45
L70	Commanded Current Position Monitor upper 4 digits	73	0x0946	4:02375	0x0B46
L71	Commanded Current Position Monitor lower 4 digits	1	0x0947	4:02376	0x0B47
L72	Feedback Current Position Monitor upper 4 digits	73	0x0948	4:02377	0x0B48
L73	Feedback Current Position Monitor lower 4 digits	1	0x0949	4:02378	0x0B49
L74	Distance Sensor Detected Position Monitor upper 4 digits	73	0x094A	4:02379	0x0B4A
L75	Distance Sensor Detected Position Monitor lower 4 digits	1	0x094B	4:02380	0x0B4B
L76	Teaching of Feedback Current Position upper 4 digits	73	0x094C	4:02381	0x0B4C
L77	Teaching of Feedback Current Position lower 4 digits	1	0x094D	4:02382	0x0B4D
L78	Status 1 Monitor	1	0x094E	4:02383	0x0B4E
L79	Reserved	1	0x094F	4:02384	0x0B4F
L97	Detail Settings	1	0x0961	4:02402	0x0B61
L98	Current Position Settings	1	0x0962	4:02403	0x0B62
L99	Reserved	1	0x0963	4:02404	0x0B63

o codes: Position Control Functions

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
o19	DI Option	1	0x0613	4:01556	0x0A13
o20	DI Option (DI function selection)	1	0x0614	4:01557	0x0A14
o21	DO Option (DO function selection)	1	0x0615	4:01558	0x0A15
o27	Response error (Operation mode selection)	1	0x061B	4:01564	0x0A1B
o28	Response error (Timer)	3	0x061C	4:01565	0x0A1C
o30	Option	1	0x061E	4:01567	0x0A1E
o31	Option	1	0x061F	4:01568	0x0A1F
o32	Option	1	0x0620	4:01569	0x0A20
o33	Option	1	0x0621	4:01570	0x0A21
o34	Option	1	0x0622	4:01571	0x0A22
o35	Option	1	0x0623	4:01572	0x0A23
o36	Option	1	0x0624	4:01573	0x0A24
o37	Option	1	0x0625	4:01574	0x0A25
o38	Option	1	0x0626	4:01575	0x0A26
o39	Option	1	0x0627	4:01576	0x0A27
o40	Option	1	0x0628	4:01577	0x0A28
o41	Option	1	0x0629	4:01578	0x0A29
o42	Option	1	0x062A	4:01579	0x0A2A
o43	Option	1	0x062B	4:01580	0x0A2B
o44	Option	1	0x062C	4:01581	0x0A2C
o45	Option	1	0x062D	4:01582	0x0A2D
o46	Option	1	0x062E	4:01583	0x0A2E
o47	Option	1	0x062F	4:01584	0x0A2F
o48	Option	1	0x0630	4:01585	0x0A30
o49	Option	1	0x0631	4:01586	0x0A31

o codes: Position Control Functions (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
o50	Option	1	0x0632	4:01587	0x0A32
o51	Option	1	0x0633	4:01588	0x0A33
o52	Option	1	0x0634	4:01589	0x0A34
o53	Option	1	0x0635	4:01590	0x0A35
o54	Option	1	0x0636	4:01591	0x0A36
o55	Option	1	0x0637	4:01592	0x0A37
o56	Option	1	0x0638	4:01593	0x0A38
o57	Option	1	0x0639	4:01594	0x0A39
o58	Option	1	0x063A	4:01595	0x0A3A
o59	Option	1	0x063B	4:01596	0x0A3B
o60	Terminal [32] Extended Function	1	0x063C	4:01597	0x0A3C
o61	Terminal [32] (offset)	4	0x063D	4:01598	0x0A3D
o62	Terminal [32] (Gain)	5	0x063E	4:01599	0x0A3E
o63	Terminal [32] (Filter time constant)	5	0x063F	4:01600	0x0A3F
o64	Terminal [32] (Gain base point)	5	0x0640	4:01601	0x0A40
o65	Terminal [32] (Polarity)	1	0x0641	4:01602	0x0A41
o66	Terminal [C2] Extended Function	1	0x0642	4:01603	0x0A42
o67	Terminal [C2] (offset)	4	0x0643	4:01604	0x0A43
o68	Terminal [C2] (Gain)	5	0x0644	4:01605	0x0A44
o69	Terminal [C2] (Filter time constant)	5	0x0645	4:01606	0x0A45
o70	Terminal [C2] (Gain base point)	5	0x0646	4:01607	0x0A46
o71	Terminal [Ao] (Function)	1	0x0647	4:01608	0x0A47
o72	Terminal [Ao] (Voltage adjustment)	1	0x0648	4:01609	0x0A48
o73	Terminal [Ao] (Polarity)	1	0x0649	4:01610	0x0A49
o74	Terminal [CS] (Function)	1	0x064A	4:01611	0x0A4A
o75	Terminal [CS] (Voltage adjustment)	1	0x064B	4:01612	0x0A4B

S codes: Command Data

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
S01	Frequency reference (p.u.)	29	0x0701	4:01794	0x0201
S02	Torque command	6	0x0702	4:01795	0x0202
S03	Torque current command	6	0x0703	4:01796	0x0203
S05	Frequency reference	22	0x0705	4:01798	0x0205
S06	Operation command	14	0x0706	4:01799	0x0206
S07	Universal DO	15	0x0707	4:01800	0x0207
S08	Acceleration time F07	3	0x0708	4:01801	0x0208
S09	Deceleration time F08	3	0x0709	4:01802	0x0209
S10	Torque Limiter 1-1	6	0x070A	4:01803	0x020A
S11	Torque Limiter 1-2	6	0x070B	4:01804	0x020B
S12	Universal Ao	29	0x070C	4:01805	0x020C
S13	PID command	29	0x070D	4:01806	0x020D
S14	Alarm reset command	1	0x070E	4:01807	0x020E
S19	Speed command	2	0x0713	4:01812	0x0213

M codes: Monitoring Data 1

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
M01	Frequency reference (p.u.) (Final command)	29	0x0801	4:02050	0x0301
M02	Torque command (Final command)	6	0x0802	4:02051	0x0302
M03	Torque current command (Final command)	6	0x0803	4:02052	0x0303
M04	Flux command	6	0x0804	4:02053	0x0304
M05	Frequency reference (Final command)	22	0x0805	4:02054	0x0305
M06	Output frequency 1(p.u.)	29	0x0806	4:02055	0x0306
M07	Torque value	6	0x0807	4:02056	0x0307
M08	Torque current value	6	0x0808	4:02057	0x0308
M09	Output frequency	22	0x0809	4:02058	0x0309
M10	Input power	5	0x080A	4:02059	0x030A
M11	Output current effective value	5	0x080B	4:02060	0x030B

M codes: Monitoring Data 1 (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
M12	Output voltage effective value	3	0x080C	4:02061	0x030C
M13	Operation command (Final command)	14	0x080D	4:02062	0x030D
M14	Operation status	16	0x080E	4:02063	0x030E
M15	General-purpose output terminal information	15	0x080F	4:02064	0x030F
M16	Latest alarm contents	10	0x0810	4:02065	0x0310
M17	Last alarm contents	10	0x0811	4:02066	0x0311
M18	Second last alarm contents	10	0x0812	4:02067	0x0312
M19	Third last alarm contents	10	0x0813	4:02068	0x0313
M20	Cumulative operation time	1	0x0814	4:02069	0x0314
M21	DC link circuit voltage	1	0x0815	4:02070	0x0315
M22	Motor temperature	2	0x0816	4:02071	0x0316
M23	Model code	17	0x0817	4:02072	0x0317
M24	Capacity code	11	0x0818	4:02073	0x0318
M25	ROM version	35	0x0819	4:02074	0x0319
M26	Transmission error transaction code	20	0x081A	4:02075	0x031A
M27	Frequency reference on alarm (p.u.) (Final command)	29	0x081B	4:02076	0x031B
M28	Torque command on alarm (Final command)	6	0x081C	4:02077	0x031C
M29	Torque current command on alarm (Final command)	6	0x081D	4:02078	0x031D
M30	Flux command on alarm	6	0x081E	4:02079	0x031E
M31	Frequency reference on alarm (Final command)	22	0x081F	4:02080	0x031F
M32	Output frequency 1 on alarm (p.u.)	29	0x0820	4:02081	0x0320
M33	Torque value on alarm	6	0x0821	4:02082	0x0321
M34	Torque current value on alarm	6	0x0822	4:02083	0x0322
M35	Output frequency on alarm	22	0x0823	4:02084	0x0323
M36	Input power on alarm	5	0x0824	4:02085	0x0324
M37	Output current effective value on alarm	5	0x0825	4:02086	0x0325
M38	Output voltage effective value on alarm	3	0x0826	4:02087	0x0326
M39	Operation command on alarm	14	0x0827	4:02088	0x0327
M40	Operation status on alarm	16	0x0828	4:02089	0x0328
M41	Output terminal information on alarm	15	0x0829	4:02090	0x0329
M42	Cumulative operation time on alarm	1	0x082A	4:02091	0x032A
M43	DC link circuit voltage on alarm	1	0x082B	4:02092	0x032B
M44	Inverter internal air temperature on alarm	1	0x082C	4:02093	0x032C
M45	Heat sink temperature on alarm	1	0x082D	4:02094	0x032D
M46	Life of main circuit capacitor	3	0x082E	4:02095	0x032E
M47	Life of PC board electrolytic capacitor	74	0x082F	4:02096	0x032F
M48	Life of cooling fan	74	0x0830	4:02097	0x0330
M49	Input terminal voltage[12] (p.u.)	29	0x0831	4:02098	0x0331
M50	Input terminal current[C1] (p.u.)	29	0x0832	4:02099	0x0332
M52	Input terminal voltage[32] (p.u.)	29	0x0834	4:02101	0x0334
M53	Input terminal voltage[C2] (p.u.)	29	0x0835	4:02102	0x0335
M54	Input terminal voltage[V2] (p.u.)	29	0x0836	4:02103	0x0336
M61	Inverter internal air temperature	1	0x083D	4:02110	0x033D
M62	Heat sink temperature	1	0x083E	4:02111	0x033E
M63	Load factor	6	0x083F	4:02112	0x033F
M64	Motor output	6	0x0840	4:02113	0x0340
M65	Motor output on alarm	29	0x0841	4:02114	0x0341
M66	Speed detection	29	0x0842	4:02115	0x0342
M67	Transmission error transaction code (RS485 port2)	20	0x0843	4:02116	0x0343
M68	PID final command	29	0x0844	4:02117	0x0344
M69	Inverter rated current	24	0x0845	4:02118	0x0345
M70	Operation status 2	44	0x0846	4:02119	0x0346
M71	Input terminal information	14	0x0847	4:02120	0x0347
M72	PID feedback value	29	0x0848	4:02121	0x0348
M73	PID output	29	0x0849	4:02122	0x0349
M74	Running status 2	76	0x084A	4:02123	0x034A
M76	Service Life of DC Link Bus Capacitor (Elapsed time)	74	0x084C	4:02125	0x034C
M77	Service Life of DC Link Bus Capacitor (Remaining time)	74	0x084D	4:02126	0x034D
M78	Rotation speed command	2	0x084E	4:02127	0x034E
M79	Rotation speed	2	0x084F	4:02128	0x034F
M80	For maker	1	0x0850	4:02129	0x0350

M codes: Monitoring Data 1 (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
M81	Remaining time before the next motor 1 maintenance	74	0x0851	4:02130	0x0351
M85	Remaining startup times before the next maintenance	1	0x0855	4:02134	0x0355
M86	Light alarm factor (Latest)	10	0x0856	4:02135	0x0356
M87	Light alarm factor (Last)	10	0x0857	4:02136	0x0357
M88	Light alarm factor (2nd last)	10	0x0858	4:02137	0x0358
M89	Light alarm factor (3rd last)	10	0x0859	4:02138	0x0359

W codes: Monitoring Data 2

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
W01	Running status	16	0x0F01	4:03842	0x1001
W02	Frequency reference	22	0x0F02	4:03843	0x1002
W03	Output frequency (before slip compensation)	22	0x0F03	4:03844	0x1003
W04	Output frequency (after slip compensation)	22	0x0F04	4:03845	0x1004
W05	Output current	24	0x0F05	4:03846	0x1005
W06	Output voltage	3	0x0F06	4:03847	0x1006
W07	Torque	2	0x0F07	4:03848	0x1007
W08	Motor speed	37	0x0F08	4:03849	0x1008
W09	Load shaft speed	37	0x0F09	4:03850	0x1009
W10	line speed	37	0x0F0A	4:03851	0x100A
W11	PID process command	12	0x0F0B	4:03852	0x100B
W12	PID feedback value	12	0x0F0C	4:03853	0x100C
W13	Level of torque value A	2	0x0F0D	4:03854	0x100D
W14	Level of torque value B	2	0x0F0E	4:03855	0x100E
W15	Ratio value	5	0x0F0F	4:03856	0x100F
W16	Rotation speed set value	37	0x0F10	4:03857	0x1010
W17	Load speed set value	37	0x0F11	4:03858	0x1011
W18	line speed set value	37	0x0F12	4:03859	0x1012
W21	Input power	24	0x0F15	4:03862	0x1015
W22	Motor output	24	0x0F16	4:03863	0x1016
W23	Load rate	2	0x0F17	4:03864	0x1017
W24	Torque current	2	0x0F18	4:03865	0x1018
W26	Flux command value	2	0x0F1A	4:03867	0x101A
W28	Operation command source	67	0x0F1C	4:03869	0x101C
W29	Frequency and PID command source	68	0x0F1D	4:03870	0x101D
W30	Speed at percentage	5	0x0F1E	4:03871	0x101E
W31	Speed set value at percentage	5	0x0F1F	4:03872	0x101F
W32	PID output	4	0x0F20	4:03873	0x1020
W33	Analog input monitor	12	0x0F21	4:03874	0x1021
W35	Terminal [32]input voltage	4	0x0F23	4:03876	0x1023
W36	Terminal [C2]input current	3	0x0F24	4:03877	0x1024
W37	Terminal [AO]output voltage	4	0x0F25	4:03878	0x1025
W38	Terminal [CS]output current	3	0x0F26	4:03879	0x1026
W39	Terminal[X7] pulse input monitor	6	0x0F27	4:03880	0x1027
W40	Control circuit terminal (input)	43	0x0F28	4:03881	0x1028
W41	Control circuit terminal (output)	15	0x0F29	4:03882	0x1029
W42	Communications control signal (input)	14	0x0F2A	4:03883	0x102A
W43	Communications control signal (output)	15	0x0F2B	4:03884	0x102B
W44	Terminal [12]input voltage	4	0x0F2C	4:03885	0x102C
W45	Terminal [C1]input current	3	0x0F2D	4:03886	0x102D
W46	Terminal [FM 1] output voltage	3	0x0F2E	4:03887	0x102E
W47	Terminal [FM 2] output voltage	3	0x0F2F	4:03888	0x102F
W49	Terminal [V2] input voltage	4	0x0F31	4:03890	0x1031
W50	Terminal [FM 1] output current	3	0x0F32	4:03891	0x1032
W51	Situation of input terminals on DIO option	77	0x0F33	4:03892	0x1033
W52	Situation of output terminals on DIO option	78	0x0F34	4:03893	0x1034
W53	Pulse input(Master - side A/B phase)	6	0x0F35	4:03894	0x1035
W54	Pulse input(Master - side Z phase)	1	0x0F36	4:03895	0x1036
W55	Pulse input(Slave - side A/B phase)	6	0x0F37	4:03896	0x1037
W56	Pulse input(Slave - side Z phase)	1	0x0F38	4:03897	0x1038

W codes: Monitoring Data 2 (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
W57	Current Position Pulse(Upper column)	73	0x0F39	4:03898	0x1039
W58	Current Position Pulse(Lower column)	1	0x0F3A	4:03899	0x103A
W59	Stop Position Pulse(Upper column)	73	0x0F3B	4:03900	0x103B
W60	Stop Position Pulse(Lower column)	1	0x0F3C	4:03901	0x103C
W61	Difference Pulse of Position(Upper column)	73	0x0F3D	4:03902	0x103D
W62	Difference Pulse of Position(Lower column)	1	0x0F3E	4:03903	0x103E
W63	Positioning Status	1	0x0F3F	4:03904	0x103F
W64	Difference pulse of servo lock control	2	0x0F40	4:03905	0x1040
W65	Terminal [FM 2] output current	3	0x0F41	4:03906	0x1041
W66	Difference pulse of synchronous operation	4	0x0F42	4:03907	0x1042
W67	Cumulative operation time of electrolytic	74	0x0F43	4:03908	0x1043
W68	Cumulative operation time of cooling fan	74	0x0F44	4:03909	0x1044
W69	Surface speed monitor	37	0x0F45	4:03910	0x1045
W70	Cumulative operation time	1	0x0F46	4:03911	0x1046
W71	DC link circuit voltage	1	0x0F47	4:03912	0x1047
W72	Internal air highest temperature	1	0x0F48	4:03913	0x1048
W73	Heat sink maximum temperature	1	0x0F49	4:03914	0x1049
W74	Maximum effective current value	24	0x0F4A	4:03915	0x104A
W75	Main circuit capacitor's capacitor	3	0x0F4B	4:03916	0x104B
W78	Number of startups	1	0x0F4E	4:03919	0x104E
W81	Integrating electric power	45	0x0F51	4:03922	0x1051
W82	Data used integrating electric power	45	0x0F52	4:03923	0x1052
W83	Number of RS485 ch1 errors	1	0x0F53	4:03924	0x1053
W84	Contents of RS485 ch1 error	20	0x0F54	4:03925	0x1054
W85	Number of RS485 ch2 errors	1	0x0F55	4:03926	0x1055
W86	Number of option communication errors	1	0x0F56	4:03927	0x1056
W87	Inverter's ROM version	35	0x0F57	4:03928	0x1057
W89	Remote keypad's ROM version	35	0x0F59	4:03930	0x1059
W90	Option 1 ROM version	35	0x0F5A	4:03931	0x105A
W91	Option 2 ROM version	35	0x0F5B	4:03932	0x105B
W92	Option 3 ROM version	35	0x0F5C	4:03933	0x105C
W94	Contents of RS485 ch2 error	20	0x0F5E	4:03935	0x105E
W95	Number of option communication errors	1	0x0F5F	4:03936	0x105F
W96	Option communicate error contents	1	0x0F60	4:03937	0x1060
W97	Option communicate error contents	1	0x0F61	4:03938	0x1061
W98	Number of option communication errors	1	0x0F62	4:03939	0x1062
W99	Option communicate error contents	1	0x0F63	4:03940	0x1063

X codes: Alarm Information

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
X00	Alarm history (latest)	41	0x1000	4:04097	0x1100
X01	Multiple alarm1 (latest)	40	0x1001	4:04098	0x1101
X02	Multiple alarm2 (latest)	40	0x1002	4:04099	0x1102
X03	Sub code	1	0x1003	4:04100	0x1103
X05	Alarm history (last)	41	0x1005	4:04102	0x1105
X06	Multiple alarm1 (last)	40	0x1006	4:04103	0x1106
X07	Multiple alarm2 (last)	40	0x1007	4:04104	0x1107
X08	Sub code	1	0x1008	4:04105	0x1108
X10	Alarm history (second last)	41	0x100A	4:04107	0x110A
X11	Multiple alarm1 (second last)	40	0x100B	4:04108	0x110B
X12	Multiple alarm2 (second last)	40	0x100C	4:04109	0x110C
X13	Sub code	1	0x100D	4:04110	0x110D
X15	Alarm history (third last)	41	0x100F	4:04112	0x110F
X16	Multiple alarm1 (third last)	40	0x1010	4:04113	0x1110
X17	Multiple alarm2 (third last)	40	0x1011	4:04114	0x1111
X18	Sub code	1	0x1012	4:04115	0x1112
X20	Latest info. on alarm (output frequency)	22	0x1014	4:04117	0x1114
X21	Latest info. on alarm (output current)	24	0x1015	4:04118	0x1115
X22	Latest info. on alarm (output voltage)	1	0x1016	4:04119	0x1116
X23	Latest info. on alarm (Torque)	2	0x1017	4:04120	0x1117

X codes: Alarm Information (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
X24	Latest info. on alarm (set frequency)	22	0x1018	4:04121	0x1118
X25	Latest info. on alarm (running status)	16	0x1019	4:04122	0x1119
X26	Latest info. on alarm (cumulative ope. time)	1	0x101A	4:04123	0x111A
X27	Latest info. on alarm (number of startups)	1	0x101B	4:04124	0x111B
X28	Latest info. on alarm (DC link circuit voltage)	1	0x101C	4:04125	0x111C
X29	Latest info. on alarm (Internal air temperature)	1	0x101D	4:04126	0x111D
X30	Latest info. on alarm (heat sink temperature)	1	0x101E	4:04127	0x111E
X31	Latest info. on alarm (input terminal)	43	0x101F	4:04128	0x111F
X32	Latest info. on alarm (output terminal)	15	0x1020	4:04129	0x1120
X33	Latest info. on alarm (input terminal(com.))	14	0x1021	4:04130	0x1121
X34	Latest info. on alarm (output terminal(com.))	15	0x1022	4:04131	0x1122
X35	Latest info. on alarm (input power)	24	0x1023	4:04132	0x1123
X36	Latest info. on alarm (running status 2)	76	0x1024	4:04133	0x1124
X37	Latest info. on alarm (Speed detection)	29	0x1025	4:04134	0x1125
X38	Target position Monitor upper 4 digits	73	0x1026	4:04135	0x1126
X39	Target position Monitor lower 4 digits	1	0x1027	4:04136	0x1127
X40	Command position Monitor upper 4 digits	73	0x1028	4:04137	0x1128
X41	Command position Monitor lower 4 digits	1	0x1029	4:04138	0x1129
X42	Feedback position Monitor upper 4 digits	73	0x102A	4:04139	0x112A
X43	Feedback position Monitor lower 4 digits	1	0x102B	4:04140	0x112B
X44	Distance measuring device monitor upper 4 digits	73	0x102C	4:04141	0x112C
X45	Distance measuring device monitor lower 4 digits	1	0x102D	4:04142	0x112D
X46	Position control Status 1	1	0x102E	4:04143	0x112E
X60	Last info. on alarm (output frequency)	22	0x103C	4:04157	0x113C
X61	Last info. on alarm (output current)	24	0x103D	4:04158	0x113D
X62	Last info. on alarm (output voltage)	1	0x103E	4:04159	0x113E
X63	Last info. on alarm (Torque)	2	0x103F	4:04160	0x113F
X64	Last info. on alarm (set frequency)	22	0x1040	4:04161	0x1140
X65	Last info. on alarm (running status)	16	0x1041	4:04162	0x1141
X66	Last info. on alarm (cumulative ope. time)	1	0x1042	4:04163	0x1142
X67	Last info. on alarm (number of startups)	1	0x1043	4:04164	0x1143
X68	Last info. on alarm (DC link circuit voltage)	1	0x1044	4:04165	0x1144
X69	Last info. on alarm (Internal air temperature)	1	0x1045	4:04166	0x1145
X70	Last info. on alarm (heat sink temperature)	1	0x1046	4:04167	0x1146
X71	Last info. on alarm (input terminal)	43	0x1047	4:04168	0x1147
X72	Last info. on alarm (output terminal)	15	0x1048	4:04169	0x1148
X73	Last info. on alarm (input terminal(com.))	14	0x1049	4:04170	0x1149
X74	Last info. on alarm (output terminal(com.))	15	0x104A	4:04171	0x114A
X76	Last info. on alarm (running status 2)	76	0x104C	4:04173	0x114C
X77	Last info. on alarm (Speed detection)	29	0x104D	4:04174	0x114D
X78	Target position Monitor upper 4 digits	73	0x104E	4:04175	0x114E
X79	Target position Monitor lower 4 digits	1	0x104F	4:04176	0x114F
X80	Command position Monitor upper 4 digits	73	0x1050	4:04177	0x1150
X81	Command position Monitor lower 4 digits	1	0x1051	4:04178	0x1151
X82	Feedback position Monitor upper 4 digits	73	0x1052	4:04179	0x1152
X83	Feedback position Monitor lower 4 digits	1	0x1053	4:04180	0x1153
X84	Distance measuring device monitor upper 4 digits	73	0x1054	4:04181	0x1154
X85	Distance measuring device monitor lower 4 digits	1	0x1055	4:04182	0x1155
X86	Position control Status 1	1	0x1056	4:04183	0x1156
X90	Customizable Logic (timer monitor)	5	0x105A	4:04187	0x115A

Z codes: Alarm Information

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
Z00	Second last info. on alarm (output frequency)	22	0x1100	4:04353	0x1200
Z01	Second last info. on alarm (output current)	24	0x1101	4:04354	0x1201
Z02	Second last info. on alarm (output voltage)	1	0x1102	4:04355	0x1202
Z03	Second last info. on alarm (Torque)	2	0x1103	4:04356	0x1203
Z04	Second last info. on alarm (set frequency)	22	0x1104	4:04357	0x1204
Z05	Second last info. on alarm (running status)	16	0x1105	4:04358	0x1205
Z06	Second last info. on alarm (cumulative ope. time)	1	0x1106	4:04359	0x1206

Z codes: Alarm Information (Continued)

F No.	Establishment item	Data Format No.	ModBus Address		FieldBus address
			Hexadecimal	Decimal (Area 4)	
Z07	Second last info. on alarm (number of startups)	1	0x1107	4:04360	0x1207
Z08	Second last info. on alarm (DC link circuit voltage)	1	0x1108	4:04361	0x1208
Z09	Second last info. on alarm (Internal air temperature)	1	0x1109	4:04362	0x1209
Z10	Second last info. on alarm (heat sink temperature)	1	0x110A	4:04363	0x120A
Z11	Second last info. on alarm (input terminal)	43	0x110B	4:04364	0x120B
Z12	Second last info. on alarm (output terminal)	15	0x110C	4:04365	0x120C
Z13	Second last info. on alarm (input terminal(com.))	14	0x110D	4:04366	0x120D
Z14	Second last info. on alarm (output terminal(com.))	15	0x110E	4:04367	0x120E
Z16	Second last info. on alarm (running status 2)	76	0x1110	4:04369	0x1210
Z17	Second last info. on alarm (Speed detection)	29	0x1111	4:04370	0x1211
Z18	Target position Monitor upper 4 digits	73	0x1112	4:04371	0x1212
Z19	Target position Monitor lower 4 digits	1	0x1113	4:04372	0x1213
Z20	Command position Monitor upper 4 digits	73	0x1114	4:04373	0x1214
Z21	Command position Monitor lower 4 digits	1	0x1115	4:04374	0x1215
Z22	Feedback position Monitor upper 4 digits	73	0x1116	4:04375	0x1216
Z23	Feedback position Monitor lower 4 digits	1	0x1117	4:04376	0x1217
Z24	Distance measuring device monitor upper 4 digits	73	0x1118	4:04377	0x1218
Z25	Distance measuring device monitor lower 4 digits	1	0x1119	4:04378	0x1219
Z26	Position control Status 1	1	0x111A	4:04379	0x121A
Z40	Cumulative run time of motor 1	74	0x1128	4:04393	0x1228
Z50	Third last info. on alarm (output frequency)	22	0x1132	4:04403	0x1232
Z51	Third last info. on alarm (output current)	24	0x1133	4:04404	0x1233
Z52	Third last info. on alarm (output voltage)	1	0x1134	4:04405	0x1234
Z53	Third last info. on alarm (Torque)	2	0x1135	4:04406	0x1235
Z54	Third last info. on alarm (set frequency)	22	0x1136	4:04407	0x1236
Z55	Third last info. on alarm (running status)	16	0x1137	4:04408	0x1237
Z56	Third last info. on alarm (cumulative ope. time)	1	0x1138	4:04409	0x1238
Z57	Third last info. on alarm (number of startups)	1	0x1139	4:04410	0x1239
Z58	Third last info. on alarm (DC link circuit voltage)	1	0x113A	4:04411	0x123A
Z59	Third last info. on alarm (Internal air temperature)	1	0x113B	4:04412	0x123B
Z60	Third last info. on alarm (heat sink temperature)	1	0x113C	4:04413	0x123C
Z61	Third last info. on alarm (input terminal)	43	0x113D	4:04414	0x123D
Z62	Third last info. on alarm (output terminal)	15	0x113E	4:04415	0x123E
Z63	Third last info. on alarm (input terminal(com.))	14	0x113F	4:04416	0x123F
Z64	Third last info. on alarm (output terminal(com.))	15	0x1140	4:04417	0x1240
Z66	Third last info. on alarm (running status 2)	76	0x1142	4:04419	0x1242
Z67	Third last info. on alarm (Speed detection)	29	0x1143	4:04420	0x1243
Z68	Target position Monitor upper 4 digits	73	0x1144	4:04421	0x1244
Z69	Target position Monitor lower 4 digits	1	0x1145	4:04422	0x1245
Z70	Command position Monitor upper 4 digits	73	0x1146	4:04423	0x1246
Z71	Command position Monitor lower 4 digits	1	0x1147	4:04424	0x1247
Z72	Feedback position Monitor upper 4 digits	73	0x1148	4:04425	0x1248
Z73	Feedback position Monitor lower 4 digits	1	0x1149	4:04426	0x1249
Z74	Distance measuring device monitor upper 4 digits	73	0x114A	4:04427	0x124A
Z75	Distance measuring device monitor lower 4 digits	1	0x114B	4:04428	0x124B
Z76	Position control Status 1	1	0x114C	4:04429	0x124C
Z80	Speed detection	2	0x1150	4:04433	0x1250
Z81	Torque real value	6	0x1151	4:04434	0x1251
Z82	Load factor	6	0x1152	4:04435	0x1252
Z83	Motor output	6	0x1153	4:04436	0x1253
Z84	Output current	24	0x1154	4:04437	0x1254
Z85	PID feedback value	12	0x1155	4:04438	0x1255
Z86	Input power	24	0x1156	4:04439	0x1256
Z87	PID output	4	0x1157	4:04440	0x1257
Z88	Integrating electric power	45	0x1158	4:04441	0x1258
Z90	Current Position Pulse upper 4 digits	73	0x115A	4:04443	0x125A
Z91	Current Position Pulse lower 4 digits	1	0x115B	4:04444	0x125B
Z92	Stop Position Pulse upper 4 digits	73	0x115C	4:04445	0x125C
Z93	Stop Position Pulse lower 4 digits	1	0x115D	4:04446	0x125D
Z94	Difference Pulse of Position upper 4 digits	73	0x115E	4:04447	0x125E
Z95	Difference Pulse of Position lower 4 digits	1	0x115F	4:04448	0x125F

3. FieldBus Communications example.

If communications with certain function codes is needed while using, for example, Profibus DP communications, the address in “FieldBus Adress” column should be used. In this way, the corresponding function code will be accessed by the FieldBus master (PLC or equivalent).

In Figure 1, the PPO type 4 structure in case of Profibus DP is depicted. In this PPO type, words from PCD1 to PCD4 are freely addressed by the user to the needed function codes in the inverter.

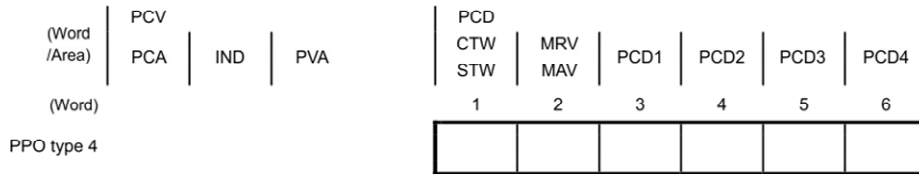


Figure 1: Profibus DP PPO type 4 structure

Therefore, if we want to modify S06 (Operation Command), L29 (Positioning Data by COM), L01 (Positioning Frequency 1) and L03 (Positioning Data 1, lower 4 digits), and we require to monitor L78 (Status Monitor 1), L72 (Feedback Current Position Monitor, upper 4 digits), L73 (Feedback Current Position Monitor, lower 4 digits) and M15 (General-purpose output terminal information), the setup in the inverter should be as described in the following table.

Setup	Description
o30 = 4	PPO type 4 selected for Profibus DP
o40 = 0206	Writing PCD1 is S06
o41 = 0B1D	Writing PCD2 is L29
o42 = 0B01	Writing PCD3 is L01
o43 = 0B03	Writing PCD4 is L03
o48 = 0B4E	Monitoring PCD1 is L78
o49 = 0B48	Monitoring PCD2 is L72
o50 = 0B49	Monitoring PCD3 is L73
o51 = 030F	Monitoring PCD4 is M15

4. Conclusion.

Using FRENIC MEGA Servo software version, interesting new functions are available, like positioning function, ability to drive a PMSM motor, etc. Using communications via serial link (2 standard communications ports) or FieldBus (using standard MEGA option cards, which are fully compatible) the inverter application can be enhanced.

5. Document history.

Version	Changes applied	Date	Written	Checked	Approved
1.0.0	First version	27/10/2011	J.M.Ibañez		
1.0.1	Small text changes	16/11/2011	J.M.Ibañez	D. Bedford	
1.0.2	Added FieldBus example	18/11/2011	J.M.Ibañez	D. Bedford	D. Bedford
1.0.3	Hexadecimal numbers format changed	25/11/2011	J.M.Ibañez	D. Bedford	D. Bedford
1.0.4	Small changes in pages 7, 14, 15, 16, 17 and 18	09/07/2013	J.M.Ibañez	J. Català	J. Català