Parameter Name (sorted in groups)	ADI	Modbus register addr	Data type	Scaling/ Coding	Remark	NFO Classic	Data type	Scaling/ Coding
ParGroup Motor								
P-Nom	5	0220h, 0221h	UINT32	W		E0008	SINT16	kW × 10^2
U-Nom	6	0224h	UINT16	V		E0009	SINT16	V
f-Nom	7	0228h	UINT16	Hz		E000F	SINT16	Hz
N-nom	8	022Ch	UINT16	rpm		E0010	SINT16	rpm
I-nom	9	0230h, 0231h	UINT32	mA		E0011	SINT16	A × 10^1
cos-ϕ	10	0234h	UINT16	1 × 10^3		E0015	SINT16	1 × 10^2
R-stat	11	0238h, 0239h	UINT32	mΩ		E0002	SINT16	Ω × 10^2
R-rot	12	023Ch, 023Dh	UINT32	mΩ		E0001	SINT16	Ω × 10^2
L-main	13	0240h, 0241h	UINT32	µH		E0004	SINT16	H × 10^4
Sigma	14	0244h	UINT16	1 × 10^3		E0003	SINT16	1 × 10^3
I-magn	15	0248h, 0249h	UINT32	mA		E0005	SINT16	A × 10^2
I-limit	16	024Ch, 024Dh	UINT32	mA		E0018	SINT16	A × 10^2
Pole Count	24	026Ch	UINT16	2, 4, 6, ...	Read only	E0102	SINT16	2, 4, 6, ...
T-nom	235	05B8h	UINT32	Nm × 10^3	Read only	E0103	SINT16	Nm × 10^1
Tuning Status	26	0274h	UINT16	= InvStatus	Read only	E0019	ENUM	= InvStatus
ParGroup Ramp								
Accel. Time	28 [1]	027Eh, 027Fh	UINT32	ms	(32 bit offset)	E001D	SINT16	s × 10^1
Decel. Time	29 [1]	0282h, 0283h	UINT32	ms	(32 bit offset)	E001C	SINT16	s × 10^1
Acc/Dec Brkpoint	32	028Ch	UINT16	Hz × 10^1		E0038	SINT16	Hz × 10^1
Alt. Accel. Time	30	0284h, 0285h	UINT32	ms		E00EC	SINT16	s × 10^1
Alt. Decel. Time	31	0288h, 0289h	UINT32	ms		E00ED	SINT16	s × 10^1
ParGroup Run								
Phase Order	25	0270h	UINT16	0: U-V-W 1: U-W-V		E001F	ENUM	0: U-V-W 1: U-W-V
Stop Mode	33	0290h	UINT16	0 = Release 1 = Brake		E0032	ENUM	0 = Release 1 = Brake
Energy Save	48	02CCh	UINT16	0 = OFF 1 = ON		E00BB	ENUM	0 = OFF 1 = ON
Pwr On Delay	44	02BCh	UINT16	s		E002C	SINT16	s
Run Delay	210	0554h	UINT16	s × 10^1		E002D	SINT16	s × 10^1
Stop Delay	208	054Ch	UINT16	s × 10^1		E0068	SINT16	s × 10^1
DC-Brake	45	02C0h	UINT16	s		E0088	SINT16	s
Kp Speed	49	02D0h	UINT16	1 × 10^2		E0006	SINT16	1 × 10^2
Ti Speed	50	02D4h	UINT16	s × 10^2		E0017	SINT16	s × 10^2
Sleep Freq	51	02D8h	UINT16	Hz × 10^1		E00DC	SINT16	Hz × 10^1
Bypass Freq	52	02DCh	UINT16	Hz × 10^1		E0051	SINT16	Hz × 10^1
Byp Bandw	53	02E0h	UINT16	Hz × 10^1		E0050	SINT16	Hz × 10^1
Iboost Time	239	05C8h	UINT16	s		E010B	SINT16	s
Iboost Level	240	05CCh	UINT16	%		E010C	SINT16	%
ParGroup Control								
Control Mode	36	029Ch	UINT8	0 = Frequency 1 = PI-Reg 3 = Speed		E0030	ENUM	0 = Freq 1 = PI-Reg 3 = Speed
Auto Start	47	02C8h	UINT16	0 = OFF 1 = ON		E0033	ENUM	0 = OFF 1 = ON

Analog In 1 Setpoint Type	46	02C4h	UINT16	3 = 0-20mA 4 = 4-20mA 5 = +/-20mA 6 = 0-10V 7 = 2-10V 8 = +/-10V 9 = Pot 10k		E0098	ENUM	3 = 0-20mA 4 = 4-20mA 5 = +/-20mA 6 = 0-10V 7 = 2-10V 8 = +/-10V 9 = Pot 10k
Analog In 2 Setpoint Type	131	0418h	UINT16	See descr. Analog in 1		E004D	ENUM	See descr. Analog in 1
Digital input configuration	105	03B0h	UINT16	0 = default 1 = OEM		E0034	ENUM	0 = default 1 = OEM
ParGrp Frequency								
Freq Setpoint Src. (Op Mode)	54	02E4h	UINT16	See Op Mode description		E0031	ENUM	See Op Mode description
Fix Freq 1	55	02E8h	UINT16	Hz × 10^1		E0041	SINT16	Hz × 10^1
Fix Freq 2	56	02ECh	UINT16	Hz × 10^1		E0042	SINT16	Hz × 10^1
Fix Freq 3	57	02F0h	UINT16	Hz × 10^1		E0043	SINT16	Hz × 10^1
Fix Freq 4	68	02F4h	UINT16	Hz × 10^1		E0044	SINT16	Hz × 10^1
Fix Freq 5	59	02F8h	UINT16	Hz × 10^1		E0045	SINT16	Hz × 10^1
Fix Freq 6	60	02FCh	UINT16	Hz × 10^1		E0046	SINT16	Hz × 10^1
Fix Freq 7	61	0300h	UINT16	Hz × 10^1		E0047	SINT16	Hz × 10^1
Analog Freq min	62	0304h	SINT16	Hz × 10^1		E000D	SINT16	Hz × 10^1
Analog Freq max	63	0308h	SINT16	Hz × 10^1		E000B	SINT16	Hz × 10^1
ParGroup Speed								
Speed Setpoint Src. (Op Mode)	64	030Ch	UINT16	See Op Mode description		E0089	ENUM	See Op Mode description
Fix Speed 1	65	0310h	UINT16	rpm		E008A	SINT16	rpm
Fix Speed 2	66	0314h	UINT16	rpm		E008B	SINT16	rpm
Fix Speed 3	67	0318h	UINT16	rpm		E008C	SINT16	rpm
Fix Speed 4	68	031Ch	UINT16	rpm		E008D	SINT16	rpm
Fix Speed 5	69	0320h	UINT16	rpm		E008E	SINT16	rpm
Fix Speed 6	70	0324h	UINT16	rpm		E008F	SINT16	rpm
Fix Speed 7	71	0328h	UINT16	rpm		E0090	SINT16	rpm
Analog Speed min	72	032Ch	SINT16	rpm		E0091	SINT16	rpm
Analog Speed max	73	0330h	SINT16	rpm		E0092	SINT16	rpm
ParGroup PI-reg								
Regulator Setp. Src (Op Mode)	85	0360h	UINT16	See Op Mode description		E0036	ENUM	See Op Mode description
Fix Reg 1	86	0364h	SINT16	Unit × 10^1		E0039	SINT16	Unit × 10^1
Fix Reg 2	87	0368h	SINT16	Unit × 10^1		E003A	SINT16	Unit × 10^1
Fix Reg 3	88	036Ch	SINT16	Unit × 10^1		E003B	SINT16	Unit × 10^1
Fix Reg 4	89	0370h	SINT16	Unit × 10^1		E003C	SINT16	Unit × 10^1
Fix Reg 5	90	0374h	SINT16	Unit × 10^1		E003D	SINT16	Unit × 10^1
Fix Reg 6	91	0378h	SINT16	Unit × 10^1		E003E	SINT16	Unit × 10^1
Fix Reg 7	92	037Ch	SINT16	Unit × 10^1		E003F	SINT16	Unit × 10^1
Reg Setpoint min	93	0380h	SINT16	Unit × 10^1		E004B	SINT16	Unit × 10^1
Reg Setpoint max	94	0384h	SINT16	Unit × 10^1		E004C	SINT16	Unit × 10^1
Reg Actual min	95	0388h	SINT16	Unit × 10^1		E009A	SINT16	Unit × 10^1
Reg Actual max	96	038Ch	SINT16	Unit × 10^1		E009B	SINT16	Unit × 10^1
Reg Setp Lo limit	97	0390h	SINT16	Unit × 10^1		E0049	SINT16	Unit × 10^1
Reg Setp Hi limit	98	0394h	SINT16	Unit × 10^1		E004A	SINT16	Unit × 10^1
Reg Amp	99	0398h	SINT16	-1 or 1		E0052	ENUM	-1 or 1

Reg Kp	100	039Ch	UINT16	1×10^2		E0040	SINT16	1×10^2
Reg Ti	101	03A0h	UINT16	$s \times 10^1$		E0048	SINT16	$s \times 10^1$
Reg Freq min	102	03A4h	SINT16	$Hz \times 10^1$		E009E	SINT16	$Hz \times 10^1$
Reg Freq max	103	03A8h	SINT16	$Hz \times 10^1$		E0025	SINT16	$Hz \times 10^1$
Regulator Unit	104	03ACh	UINT16	0 = None 1 = Pa 2 = kPa 3 = bar 4 = rpm 5 = m^3/s 6 = l/s 7 = m^3/h 8 = l/h 9 = ppm 10 = % 11 = V 12 = Hz ...		E000A	ENUM	0 = None 1 = Pa 2 = kPa 3 = bar 4 = rpm 5 = m^3/s 6 = l/s 7 = m^3/h 8 = l/h 9 = ppm 10 = % 11 = V 12 = Hz ...
Reg Off Threshold	265	0630h	SINT16	$Unit \times 10^1$		E0119	SINT16	$Unit \times 10^1$
Reg On Threshold	266	0634h	SINT16	$Unit \times 10^1$		E011A	SINT16	$Unit \times 10^1$
ParGroup Output								
Relay1 Indication Mode	106	03B4h	UINT16	0 = Disabled 1 = Run 2 = Run Fwd 3 = Run Rev 4 = Run Setp 5 = Run Freq 6 = Alarm 7 = Fault 8 = Ready 9 = Curr Lim		E0059	ENUM	0 = Disabled 1 = Run 2 = Run Fwd 3 = Run Rev 4 = Run Setp 5 = Run Freq 6 = Alarm 7 = Fault 8 = Ready 9 = Curr Lim
Relay1 Indication Freq	107	03B8h	UINT16	$Hz \times 10^1$		E005A	SINT16	$Hz \times 10^1$
Relay2 Indication Mode	201	0530h	SINT16	See descr. of Relay1 mode		E00C8		See descr. of Relay1 mode
Relay2 Indication Freq	202	0534h	SINT16	$Hz \times 10^1$		E00C9		$Hz \times 10^1$
Analog1 Output Mode	108	03BCh	UINT16	0 = Disable 1 = Freq 2 = Speed 3 = Torque 4 = I_{RMS} 5 = P_{RMS} 6 = PF 7 = Setpoint		E005B	ENUM	0 = Disable 1 = Freq 2 = Speed 3 = Torque 4 = I_{RMS} 5 = P_{RMS} 6 = PF 7 = Setpoint
Analog1 Output Max	109	03C0h	UINT16	$V \times 10^2$		E005C	UINT16	$V \times 10^2$
Analog2 Output Mode	110	03C4h	UINT16	See descr. of Analog1 mode		E005D	ENUM	See descr. of Analog1 mode
Analog2 Output Max	111	03C8h	UINT16	$V \times 10^2$		E005E	UINT16	$V \times 10^2$
Analog1 Out	221	0580h	SINT16	$\% \times 10^1$	Read only	E0086	SINT16	$\% \times 10^1$
Analog2 Out	222	0584h	SINT16	$\% \times 10^1$	Read only	E0087	SINT16	$\% \times 10^1$
ParGroup Communication								
Serial/Fieldbus Auto Reset	117	03E0h	UINT16	0 = OFF 1 = ON		E002F	ENUM	0 = OFF 1 = ON

SubGrp RS485: RS485 Bus Type	112	03CCh	UINT16	0= None 1= NFO 2= ModbusRtu 3= ModbusAsc		E007A	ENUM	0= None 1= NFO 2= MbusRtu 3= MbusAsc
RS485 Bus Addr	113	03D0h	UINT16	1 – 126		E00A9	SINT16	1 – 94
RS485 Baudrate	114	03D4h	UINT16	0 = 1200 1 = 2400 2 = 4800 3 = 9600 4 = 19200 5 = 38400 6 = 57600 7 = 76800 8 = 115200 9 = 625000		E00A8	ENUM	0 = 1200 1 = 2400 2 = 4800 3 = 9600 4 = 19200 5 = 38400 6 = 57600 7 = 76800 8 = 115200 9 = 625000
RS485 Serial/Char Setup	115	03D8h	UINT16	0 = 7b Ep 1s 1 = 7b Op 1s 2 = 7b Np 2s 3 = 7b Np 1s 4 = 8b Ep 1s 5 = 8b Op 1s 6 = 8b Np 2s 7 = 8b Np 1s		E00AA	ENUM	0 = 7b Ep 1s 1 = 7b Op 1s 2 = 7b Np 2s 3 = 7b Np 1s 4 = 8b Ep 1s 5 = 8b Op 1s 6 = 8b Np 2s 7 = 8b Np 1s
RS485 Timeout	116	03DCh	UINT16	s × 10^1		E00AB	SINT16	s × 10^1
RS485 Auto Stop	118	03E4h	UINT16	0 = OFF 1 = ON		E00D8	ENUM	0 = OFF 1 = ON
RS485 Failsafe	244	05DCh	UINT16	0 = OFF 1 = ON		E00DF	ENUM	0 = OFF 1 = ON
SubGrp USB: USB Bus Type	245	05E0h	UINT16	0= None 1= NFO 2= ModbusRtu 3= ModbusAsc		E00E0	ENUM	0= None 1= NFO 2= MbusRtu 3= MbusAsc
USB Bus Addr	246	05E4h	UINT16	1 – 126		E010D	SINT16	1 – 94
USB Timeout	247	05E8h	UINT16	s × 10^1		E010E	SINT16	s × 10^1
USB Auto Stop	248	05ECh	UINT16	0 = OFF 1 = ON		E010F	ENUM	0 = OFF 1 = ON
SubGrp ABCC: ABCC Interface	249	05F0h	UINT16	0 = None 1 = Serial 2 = SPI		E0110	ENUM	0 = None 1 = Serial 2 = SPI
ABCC Detected Bus Type	250	05F4h	UINT16	0= None 4= Unknown 5= Profibus 6= CANopen 7= BACnet 8= Profinet 9= ModbusTCP	Read only	E0111	ENUM	0= None 4= Unknown 5= Profibus 6= CANopen 7= BACnet 8= Profinet 9= ModbusTCP
ABCC Bus Addr	251	05F8h	UINT16	0 – 126		E0112	SINT16	0 – 126
ABCC Timeout	252	05FCh	UINT16	s × 10^1		E0113	SINT16	s × 10^1
ABCC Auto Stop	253	0600h	UINT16	0 = OFF 1 = ON		E0114	ENUM	0 = OFF 1 = ON
ParGroup Status								
U-rms	119	03E8h	SINT16	V	Read only	E00DA	SINT16	V
I-rms	120	03ECh, 03EDh	SINT32	mA (A × 10^3)	Read only	E0095	SINT16	A × 10^2
P-out	121	03F0h, 03F1h	SINT32	W (kW × 10^3)	Read only	E00D9	SINT16	W
PF	122	03F4h	SINT16	1 × 10^3	Read only	E00DB	SINT16	1 × 10^2
DClink Voltage	123	03F8h	SINT16	V	Read only	E0014	SINT16	V × 10^1

Brk.Chop Voltage	223	0588h	SINT16	V	Read only	E007B	SINT16	V × 10^1
Stator Freq	125	0400h	SINT16	Hz × 10^1	Read only	E00B6	SINT16	Hz × 10^1
Rotor Freq	126	0404h	SINT16	Hz × 10^1	Read only	E0016	SINT16	Hz × 10^1
Control Freq	195	0518h	SINT16	Hz × 10^1	Read only	E00C2	SINT16	Hz × 10^1
Rotor Speed	22	0264h	SINT16	rpm	Read only	E0094	SINT16	rpm
Control Speed	21	0260h	SINT16	rpm	Read only	E0093	SINT16	rpm
Actual Torque	128	040Ch	SINT16	%	Read only	E0097	SINT16	%
Control Torque	194	0514h	SINT16	%	Read only	E00C1	SINT16	%
Regulator Actual	130	0414h	SINT16	Unit × 10^1	Read only	E004F	SINT16	Unit × 10^1
Regulator Setpt.	267	0638h	SINT16	Unit × 10^1	Read only	E011B	SINT16	Unit × 10^1
Ain1 U [V]	196	051Ch	SINT16	V × 10^2	Read only	E00C3	SINT16	V × 10^2
Ain1 I [mA]	197	0520h	SINT16	mA × 10^2	Read only	E00C4	SINT16	mA × 10^2
Ain2 U [V]	198	0524h	SINT16	V × 10^2	Read only	E00C5	SINT16	V × 10^2
Ain2 I [mA]	199	0528h	SINT16	mA × 10^2	Read only	E00C6	SINT16	mA × 10^2
Keyboard Input	213	0560h	UINT16	Bitfield	Read only	E009C	UINT16	Bitfield
Terminal Input	214	0564h	UINT16	Bitfield	Read only	E009D	UINT16	Bitfield
ParGroup Temperature								
Motor Temp	132	041Ch	SINT16	% × 10^1	Read only	E0058	SINT16	% × 10^1
PwrModule Temp	238	05C4h	SINT16	°C × 10^1	Read only	E010A	SINT16	°C × 10^1
Cop Chip Temp	270	0644h	SINT16	°C × 10^1	Read only	E0129	SINT16	°C × 10^1
Heatsink1 Temp & Fan Voltage	217	0570h, 0571h	SINT16 [2]	°C × 10^1 V × 10^1	Read only	E0082, E0123	SINT16	°C × 10^1 V × 10^1
Heatsink2 Temp & Fan Voltage	218	0574h, 0575h	SINT16 [2]	°C × 10^1 V × 10^1	Read only	E0083, E0124	SINT16	°C × 10^1 V × 10^1
Heatsink3 Temp & Fan Voltage	219	0578h, 0579h	SINT16 [2]	°C × 10^1 V × 10^1	Read only	E0084, E0125	SINT16	°C × 10^1 V × 10^1
Heatsink4 Temp & Fan Voltage	220	057Ch, 057Dh	SINT16 [2]	°C × 10^1 V × 10^1	Read only	E0085, E0126	SINT16	°C × 10^1 V × 10^1
External 24V	271	0648h	SINT16	V × 10^1	Read only	E0100	SINT16	V × 10^1
USB port 5V	272	064Ch	SINT16	V × 10^1	Read only	E0101	SINT16	V × 10^1
ParGrp Display								
Display Par 1	260	061Ch	UINT16	See descript.		E00F7	ENUM	
Display Par 2	261	0620h	UINT16	See descript.		E00F8	ENUM	
Display Par 3	262	0624h	UINT16	See descript.		E0115	ENUM	
Backlight level	273	0650h	UINT16	%		E011F	UINT16	%
Backlight time	274	0654h	UINT16	minutes		E0120	UINT16	minutes
Menu Read Only	278	0664h	UINT16	0 = disable 1 = enable	Activates all read only	E012C	UINT16	0 = disable 1 = enable
ParGrp Counters								
Operating Time [LSW,MSW]	39	02A8h, 02A9h	UINT32	h × 10^2	Read only	E0027, E0127	UINT32	h × 10^2
Running Time [LSW,MSW]	40	02ACh, 02ADh	UINT32	h × 10^2	Read only	E0028, E0128	UINT32	h × 10^2
Brake Time [LSW,MSW]	133	0420h, 0421h	UINT32	s	Read only	E00DD, E00DE	UINT32	s
Current Limit Time [LSW,MSW]	23	0268h, 0269h	SINT32	s	Read only	E00E1, E00E2	SINT32	s
DC Low Time [LSW,MSW]	236	05BCh, 05BDh	SINT32	s	Read only	E00FE, E00FF	SINT32	s
Start Count	268	063Ch	UINT16	-	Read only	E00E3	UINT16	-
Alarm Count	269	0640h	UINT16	-	Read only	E00E4	UINT16	-

E-Out	233	05B0h, 05B1h	UINT32	kWh × 10^3	Read only	E00FA, E00FB	UINT32	kWh × 10^3
ΣE-Out	234	05B4h, 05B5h	UINT32	MWh × 10^3	Read only	E00FC, E00FD	UINT32	MWh × 10^3
ParGrp Version								
COP Ver	41	02B0h, 02B1h	UINT16 [2]	xxxx.x	Read only	E0075, E0116	UINT16 [2]	xxxx.x
NFO Ver	42	02B4h, 02B5h	UINT16 [2]	xxxx.x	Read only	E0076, E0117	UINT16 [2]	xxxx.x
GUI Ver	216	056Ch, 056Dh	UINT16 [2]	xxxx.x	Read only	E0081, E0118	UINT16 [2]	xxxx.x
Production Date	165	04A0h, 04A1h	UINT32	ctime (seconds since 1/1/70)	Read only	E00E6, E00E7	UINT32	ctime (seconds since1/1/70)
Serial Number	-			10× ASCII	5×2 ADI's			10× ASCII
SerialNbr01	227	0598h	UINT16	2x ASCII	Read only	E00EF	UINT16	2x ASCII
SerialNbr23	228	059Ch	UINT16	2x ASCII	Read only	E00F0	UINT16	2x ASCII
SerialNbr45	229	05A0h	UINT16	2x ASCII	Read only	E00F1	UINT16	2x ASCII
SerialNbr67	230	05A4h	UINT16	2x ASCII	Read only	E00F2	UINT16	2x ASCII
SerialNbr89	231	05A8h	UINT16	2x ASCII	Read only	E00F3	UINT16	2x ASCII
ParGrp Error								
E-log 1 (start)	768	C000h, C001h C002h, C003h	UINT32 [2]	8 bit ErrCode 24 bit time	Optional data in 2nd 32 bit	E0200, E0201	UINT32	8 bit ErrCode 24 bit time
E-log 2 ...	769	C004h, C005h C006h, C007h	UINT32 [2]	8 bit ErrCode 24 bit time	– " –	E0202, E0203	UINT32	8 bit ErrCode 24 bit time
E-log ... 127	894	C1F8h, C1F9h C1FAh, C1FBh	UINT32 [2]	8 bit ErrCode 24 bit time	– " –	E02FC, E02FD	UINT32	8 bit ErrCode 24 bit time
E-log 128 (end)	895	C1FCh, C1FDh C1FEh, C1FFh	UINT32 [2]	8 bit ErrCode 24 bit time	– " –	E02FE, E02FF	UINT32	8 bit ErrCode 24 bit time
Err Restart Delay	134	0424h	UINT16	s		E002A	SINT16	s
Err Reset Time	135	0428h	UINT16	s		E002B	SINT16	s
AC Fail Mode	136	042Ch	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E0037	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
AC Fail Delay	137	0430h	UINT16	s × 10^1		E00A0	SINT16	s × 10^1
AC Fail Retry Count	138	0434h	UINT16			E00A1	SINT16	
Temp High Retry Count	140	043Ch	UINT16			E009F	SINT16	
PTC Temp Mode	141	0440h	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E001B	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
PTC Temp Retry Count	142	0444h	UINT16			E0072	SINT16	
OverLoad Mode	143	0448h	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E0055	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
OverLoad Retry Count	144	044Ch	UINT16			E00B7	SINT16	
OverLoad Forced Cool	145	0450h	UINT16	rpm		E0056	SINT16	rpm
OverLoad Ambient Temp	146	0454h	UINT16	°C		E0057	SINT16	°C

Ain Fail Mode	147	0458h	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E005F	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
Ain Fail Retry Count	148	045Ch	UINT16			E00A2	SINT16	
DC Low Retry Count	149	0460h	UINT16			E0022	SINT16	
DC High Retry Count	150	0464h	UINT16			E0023	SINT16	
GND Fail Mode	151	0468h	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E00A3	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
Short Circ. Retry Count	232	05ACh	UINT16			E00F9	SINT16	
Imagn Low Mode	152	046Ch	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E00A4	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
Imagn Low Retry Count	153	0470h	UINT16			E00A5	SINT16	
Current Low Mode	154	0474h	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E00A6	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
Current Low Retry Count	155	0478h	UINT16			E00A7	SINT16	
Current High Mode	156	047Ch	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E00B2	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
Current High Delay	157	0480h	UINT16	$s \times 10^1$		E00B5	SINT16	$s \times 10^1$
Current High Retry Count	158	0484h	UINT16			E00B3	SINT16	
Run Fail Mode	159	0488h	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E002E	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
Run Fail Retry Count	160	048Ch	UINT16			E00AF	SINT16	
Current Limit Mode	241	05D0h	UINT16	0 = Disable 1 = Ind 2 = Alarm 3 = Error		E0106	ENUM	0 = Disable 1 = Ind 2 = Alarm 3 = Error
Current Limit Delay	242	05D4h	UINT16	$s \times 10^1$		E0107	SINT16	$s \times 10^1$
Current Limit Retry Count	243	05D8h	UINT16			E0108	SINT16	
Serial Control Interface								
Drive Control	18	0254h	UINT16	See Drv Ctrl description		E007C	UINT16	See Drv Ctrl description
Drive Status	19	0258h (0259h)	UINT16 (UINT32)	See Drv Status description	Only LSW 16 bits implmted	E007D	UINT16	See Drv Status description
MODE (Control Source)	34	0294h	UINT8	0 = Inhibit 1 = Stop/Man 2 = Ext./Auto 3 = Bus		E0029	ENUM	0 = Inhibit 1 = Stop/Man 2 = Ext./Auto 3 = Bus

SCMD (Control Command)	35	0298h	UINT16	See Op Mode description		E00AD	ENUM	See Op Mode description
Inv Status (w./ w.out Ack)	38	02A4h w Ack 02A5h wo Ack	UINT16	See description	Read only	E00E8 E00E9	ENUM	See description
Freq Setpoint	124	03FCh	SINT16	Hz × 10^1	if SCMD = 101h	E0020	SINT16	Hz × 10^1
Speed Setpoint	20	025Ch	SINT16	rpm	if SCMD = 101h	E0096	SINT16	rpm
Torque Setpoint	127	0408h	SINT16	%	if SCMD = 101h	E0021	SINT16	%
Regulator Setpt.	129	0410h	SINT16	Unit × 10^{1*}	if SCMD = 101h	E004E	SINT16	Unit × 10^{1*}

Notes:

[1] For backward compatibility, parameters Acceleration Time and Deceleration Time are located on a 32 bit offset with respect to the Modbus base address of the ADI in question. This is supplied for information only, as it will not affect read or write access.

Modbus communication

Modbus RTU or Modbus ASCII can be used for communication with the inverter. Available communication ports are RS485 (accessible from terminals) and USB type B device port implementing a virtual COM port. For setup of communication parameters, see corresponding paragraph in section 5. The inverter implements a bus slave, and will never transmit data unless transmission is initiated by a bus master. Default station address is 1.

Any parameter value and/or data is by default treated as a 16-bit data type, transmitted with most significant byte first. For 32-bit values, the low order 16-bit word is transmitted first, followed by the high order.

The available parameters of the inverter are numbered using an Application Data Interface (ADI) number, starting on 1. Each ADI (parameter index) can contain up to 64 bits of data (2x 32-bit or 4x 16-bit), but most parameter sizes are only 16 bits. Modbus register address start offset for ADI number 1 is 210h (528 in decimal), and each ADI takes up four Modbus register addresses (i.e. next Modbus register base address will be 214h, then 218h, etc).

Default bus master access to Modbus register addresses should be by using the parameter's base register address (i.e. a register address that is a multiple of 4). The bus master may also choose to access the registers that are located on the in-between addresses (e.g. 211h, 212h and 213h), but this will only be possible if the parameter in question is 32-bit (or 2x 32-bit, 4x 16-bit, etc), and if the parameter itself requires explicit access to a register address that is not aligned with the parameter base address. If bus master makes an illegal register address access, the inverter will reply with a Modbus error code.

For bus master read access, the number of registers to read in each transmission is internally limited to the number of registers used by the ADI in question, i.e. maximum four consecutive registers (if parameter is 64 bits).

Drive Control

Bit	Name	Description
0	Switch on	Run command (run signal must be active)
1	Not used	(value echoed to drive status bit 4)
2	Not used	(value echoed to drive status bit 5)
3	Enable	Enable command (must precede Run cmd)
4	Not used	-
5	Not used	-
6	Not used	-
7	Fault ack	Fault acknowledge on 0 to 1 transition

Bit	Name	Description
8	Not used	-
9	Not used	-
10	Not used	-
11	Not used	-
12	Not used	-
13	Not used	-
14	Bus control cmd	PLC takes control (must precede Enable)
15	Not used	-

Drive Status

Bit	Name	Description
0	Ready	Ready to receive enable command
1	Switched on	Inverter output stage is active
2	Enabled	Enabled, ready to receive run command
3	Fault active	Fault condition active (may require ack)
4	Not used	(returns value of drive control bit 1)
5	Not used	(returns value of drive control bit 2)
6	Disabled	Run signal not present on terminal DIN1
7	Alarm active	Alarm condition active (not require ack)

Bit	Name	Description
8	Not used	-
9	Control from bus	Inverter is in bus mode
10	Setpoint reached	Output frequency has reached setpoint
11	Limit active	Inverter has reached current limit
12	Sleep active	Output is suspended in sleep mode
13	Stopmode brake	Inverter will brake/ramp to stop
14	Reverse	Actual rotation is reverse
15	Stopping	Inverter is decelerating towards a stop

Op.mode (Setpoint source) and SCMD (Control Command) description			
00h = Stop			
03h = Analog 1 F	23h = Fix-4 F	43h = Analog 2 F	201h=Full Tuning
05h = Analog 1 R	25h = Fix-4 R	45h = Analog 2 R	301h=Basic Tuning
0Bh = Fix-1 F	2Bh = Fix-5 F	81h = Terminal	401h=Rs Measure
0Dh = Fix-1 R	2Dh = Fix-5 R	C3h = PI-reg F	501h=Calc Tuning
13h = Fix-2 F	33h = Fix-6 F	C5h = PI-reg R	800h=Clear E-log
15h = Fix-2 R	35h = Fix-6 R	101h=Serial setpt.	900h=Reset kWh
1Bh = Fix-3 F	3Bh = Fix-7 F		A00h=Alarm Ack
1Dh = Fix-3 R	3Dh = Fix-7 F		B00h=Rst Overload

Display parameter selection	
0 = U_{RMS}	9 = Motor temp
1 = I_{RMS}	10 = HS1 temp
2 = P_{RMS}	11 = HS2 temp
3 = PF	12 = HS3 temp
4 = U_{DC}	13 = HS4 temp
5 = Act Freq	
6 = Act Speed	
7 = Act Torque	
8 = Act Regulat.	

Inverter Status

Code	Text	Description
0	*Erased*	*Error log was erased*
1	**GND Fail R**	**Ground fail detected during run**
2	**AC Fail**	**Mains power error**
3	**Temp Hi**	**Too high temperature on heat sink**
4	**PTC Temp**	**Motor temperature sensor trip**
5	**Overload**	**Electronic motor overload trip**
6	**Ain Fail**	**Analog input out of range**
7	**DC Low**	**Internal undervoltage warning**
8	**DC High**	**Internal overvoltage warning and trip**
9	**GND Fail S**	**Ground fail detected during stop**
10	**Imagn Low**	**Magnetization current too low or too high**
11	**Cur Low**	**Output current too low**
12	**Cur High**	**Output current too high**
13	**Run Fail**	**Locked rotor / unable to control motor**
14	**Sio Fail**	**Serial communication timeout**
15	**Bus Fail**	**Fieldbus communication timeout**
16	**Tun Fail P**	**Tuning error, parameter value**
17	**Tun Fail M**	**Tuning error, measurement**
18	**RsMeasFail**	**Tuning error, stator resistance**
19	**TuneCnvFail**	**Tuning error, calculation**
20	**Dsp ComErr**	**Internal error, communication**
21	**Cop Restrt**	**Internal error, restart/reboot**
22	**Dsp SysErr**	**Internal error, measurement circuits**
23	**Cop ComErr**	**Internal error, communication**
24	*Stop*	*Inverter is stopped*
25	*Wait*	*Inverter is waiting to become ready*
26	*Brake Ch*	*Brake chopper is operating*
27	*Cur Limit*	*Current limit has been reached*
28	*Tuning*	*Tuning is ongoing*
29	*Sleep*	*Inverter has entered sleep mode*
30	*Final Freq*	*Inverter has reached final frequency*
31	*Accel*	*Inverter is accelerating*

Code	Text	Description
32	*Decel*	*Inverter is decelerating*
33	*Ext Stby*	*Inverter is ready for run cmd in Auto mode*
34	*Ext Run*	*Inverter is running in Auto mode*
35	*Ext Acc*	*Inverter is accelerating in Auto mode*
36	*Ext Ret*	*Inverter is decelerating in Auto mode*
37	*Bus Stby*	*Inverter is ready for run cmd in Bus mode*
38	*Bus Run*	*Inverter is running in Bus mode*
39	*Bus Acc*	*Inverter is accelerating in Bus mode*
40	*Bus Ret*	*Inverter is decelerating in Bus mode*
41	*PI Reg*	*Process regulator is activated at terminal*
42	*Calibrating*	*Calibrate procedure is ongoing*
43	*Calibr Done*	*Calibrate procedure finished*
44	*BasicTun Ok*	*Basic tuning finished*
45	*Full Tun Ok*	*Full tuning finished*
46	*RsMeas Ok*	*Stator resistance measurement finished*
47	*ParCalc Ok*	*Parameter calculation finished*
48	**Short Circ**	**Short circuit error detected**
49	**DC Low Trip**	**Internal undervoltage trip**
50	**SampleTime**	**Internal error, measurement sample time**
51	**Motor Volt**	**Voltage detected on motor terminals**
52	*Unused*	*Reserved for future use*
53	*Not Tuned*	*Tuning has not been performed*
54	*Delay Run*	*Inverter will start after run delay time*
55	*DC Low Ctrl*	*Internal undervoltage regulation active*
56	*DC High Ctrl*	*Internal overvoltage regulation active*
57	*Fact Reset*	*Parameters was reset to factory default*
58	*Cop FwUpdt*	*Firmware update of co-processor*
59	*Dsp FwUpdt*	*Firmware update of DSP*
60	*Gui FwUpdt*	*Firmware update of GUI*
61	*Unused*	*Reserved for future use*
62	*Unused*	*Reserved for future use*
63	*Unused*	*Reserved for future use*