

Name	Value	Unit	Min	Max	
99	START-UP DATA				
01	LANGUAGE	ENGLISH	0	25	
02	APPLIC MACRO	ABB STANDARD	-3	8	
04	MOTOR CTRL MODE	VECTOR:SPEED	1	3	
05	MOTOR NOM VOLT	415	V	200	600
06	MOTOR NOM CURR	38	A	19.4	194
07	MOTOR NOM FREQ	50	Hz	10	500
08	MOTOR NOM SPEED	1475	rpm	50	30000
09	MOTOR NOM POWER	22	kW	9	135
10	ID RUN	OFF/IDMAGN	0	1	
15	MOTOR COSPHI	0.86	0	0.97	
1	OPERATING DATA				
01	SPEED_DIR	0	rpm	-30000	30000
02	SPEED	0	rpm	0	30000
03	OUTPUT FREQ	0	Hz	0	500
04	CURRENT	0	A	0	194
05	TORQUE	0	%	-200	200
06	POWER	0	kW	-90	90
07	DC BUS VOLTAGE	604	V	0	1000
09	OUTPUT VOLTAGE	0	V	0	800
10	DRIVE TEMP	29.8	°C	-20	150
11	EXTERNAL REF 1	0	rpm	0	30000
12	EXTERNAL REF 2	0	%	0	600
13	CTRL LOCATION	EXT2	0	2	
14	RUN TIME (R)	0	h	0	10000
15	KWH COUNTER (R)	0	kWh	0	9999
16	APPL BLK OUTPUT	0	%	0	600
18	DI 1-3 STATUS	0	0	7	
19	DI 4-6 STATUS	2	0	7	
20	AI 1	0	%	0	100
21	AI 2	0	%	0	100
22	RO 1-3 STATUS	0	0	7	
23	RO 4-6 STATUS	0	0	7	
24	AO 1	4	mA	0	20
25	AO 2	4	mA	0	20
26	PID 1 OUTPUT	0	%	0	100
27	PID 2 OUTPUT	0	%	0	100
28	PID 1 SETPNT	0	%	0	100
29	PID 2 SETPNT	0	%	0	100
30	PID 1 FBK	0	%	0	100
31	PID 2 FBK	0	%	0	100
32	PID 1 DEVIATION	0	%	-100	100
33	PID 2 DEVIATION	0	%	-100	100
34	COMM RO WORD	0	0	65535	
35	COMM VALUE 1	0	-32768	32767	
36	COMM VALUE 2	0	-32768	32767	

37	PROCESS VAR 1	0	Hz	0	500
38	PROCESS VAR 2	0	A	0	194
39	PROCESS VAR 3	0	%	-200	200
40	RUN TIME	0	kh	0	500
41	MWH COUNTER	0	MWh	0	9999
42	REVOLUTION CNTR	0	Mrev	0	65535
43	DRIVE ON TIME HI	0	d	0	65535
44	DRIVE ON TIME LO	03:16:28		0	43200
45	MOTOR TEMP	0		0	0
46	MECH ANGLE	0		0	65535
47	MECH REVS	0		-32768	32767
48	Z PLS DETECTED	NOT DETECTED		0	1
50	CB TEMP	41.7	°C	-20	150
53	MOT THERM STRESS	21.8	%	0	100
58	PID COMM VALUE 1	0		-32768	32767
59	PID COMM VALUE 2	0		-32768	32767
74	SAVED KWH	20.3	kWh	0	1000
75	SAVED MWH	0	MWh	0	65535
76	SAVED AMOUNT 1	0		0	1000
77	SAVED AMOUNT 2	0		0	65535
78	SAVED CO2	0		0	6553.5
3	FB ACTUAL SIGNALS				
01	FB CMD WORD 1	241		0	65535
02	FB CMD WORD 2	C		0	65535
03	FB STS WORD 1	4011		0	65535
04	FB STS WORD 2	14		0	65535
05	FAULT WORD 1	0		0	65535
06	FAULT WORD 2	0		0	65535
07	FAULT WORD 3	0		0	65535
08	ALARM WORD 1	0		0	65535
09	ALARM WORD 2	0		0	65535
4	FAULT HISTORY				
01	LAST FAULT	PANEL LOSS		0	65535
02	FAULT TIME 1	0	d	0	65535
03	FAULT TIME 2	01:16:12		0	65535
04	SPEED AT FLT	0	rpm	-32768	32767
05	FREQ AT FLT	0	Hz	-3276.8	3276.7
06	VOLTAGE AT FLT	611.8	V	0	6553.5
07	CURRENT AT FLT	0	A	0	6553.5
08	TORQUE AT FLT	0	%	-3276.8	3276.7
09	STATUS AT FLT	0		0	65535
10	DI 1-3 AT FLT	0		0	65535
11	DI 4-6 AT FLT	1		0	65535
12	PREVIOUS FAULT 1	PANEL LOSS		0	65535
13	PREVIOUS FAULT 2	PANEL LOSS		0	65535
10	START/STOP/DIR				
01	EXT1 COMMANDS	COMM		0	14

02	EXT2 COMMANDS	"DI1,2 "		0	14
03	DIRECTION	FORWARD		1	3
04	JOGGING SEL	NOT SEL		-6	6
11	REFERENCE SELECT				
01	KEYPAD REF SEL	REF1 (Hz/rpm)		1	2
02	EXT1/EXT2 SEL	DI5		-6	12
03	REF1 SELECT	COMM		0	21
04	REF1 MIN	0	rpm	0	30000
05	REF1 MAX	1500	rpm	0	30000
06	REF2 SELECT	"DI3U,4D(R) "		0	21
07	REF2 MIN	0	%	0	100
08	REF2 MAX	100	%	0	100
12	CONSTANT SPEEDS				
01	CONST SPEED SEL	NOT SEL		-14	19
02	CONST SPEED 1	300	rpm	0	30000
03	CONST SPEED 2	600	rpm	0	30000
04	CONST SPEED 3	900	rpm	0	30000
05	CONST SPEED 4	1200	rpm	0	30000
06	CONST SPEED 5	1500	rpm	0	30000
07	CONST SPEED 6	2400	rpm	0	30000
08	CONST SPEED 7	3000	rpm	0	30000
09	TIMED MODE SEL	CS1/2/3/4		1	2
13	ANALOGUE INPUTS				
01	MINIMUM AI1	0	%	0	100
02	MAXIMUM AI1	100	%	0	100
03	FILTER AI1	0.1	s	0	10
04	MINIMUM AI2	0	%	0	100
05	MAXIMUM AI2	100	%	0	100
06	FILTER AI2	0.1	s	0	10
14	RELAY OUTPUTS				
01	RELAY OUTPUT 1	READY		0	52
02	RELAY OUTPUT 2	RUN		0	52
03	RELAY OUTPUT 3	FAULT		0	52
04	RO 1 ON DELAY	0	s	0	3600
05	RO 1 OFF DELAY	0	s	0	3600
06	RO 2 ON DELAY	0	s	0	3600
07	RO 2 OFF DELAY	0	s	0	3600
08	RO 3 ON DELAY	0	s	0	3600
09	RO 3 OFF DELAY	0	s	0	3600
10	RELAY OUTPUT 4	NOT SEL		0	52
11	RELAY OUTPUT 5	NOT SEL		0	52
12	RELAY OUTPUT 6	NOT SEL		0	52
13	RO 4 ON DELAY	0	s	0	3600
14	RO 4 OFF DELAY	0	s	0	3600
15	RO 5 ON DELAY	0	s	0	3600
16	RO 5 OFF DELAY	0	s	0	3600

17	RO 6 ON DELAY	0	s	0	3600
18	RO 6 OFF DELAY	0	s	0	3600
15	ANALOGUE OUTPUTS				
01	AO1 CONTENT SEL	SPEED		99	178
02	AO1 CONTENT MIN	0	rpm	0	65535
03	AO1 CONTENT MAX	1500	rpm	0	65535
04	MINIMUM AO1	4	mA	0	20
05	MAXIMUM AO1	20	mA	0	20
06	FILTER AO1	0.1	s	0	10
07	AO2 CONTENT SEL	CURRENT		99	178
08	AO2 CONTENT MIN	0	A	0	776
09	AO2 CONTENT MAX	50	A	0	776
10	MINIMUM AO2	4	mA	0	20
11	MAXIMUM AO2	20	mA	0	20
12	FILTER AO2	0.1	s	0	10
16	SYSTEM CONTROLS				
01	RUN ENABLE	DI6		-6	7
02	PARAMETER LOCK	OPEN		0	2
03	PASS CODE	0		0	65535
04	FAULT RESET SEL	KEYPAD		-6	8
05	USER PAR SET CHG	NOT SEL		-6	6
06	LOCAL LOCK	NOT SEL		-6	8
07	PARAM SAVE	DONE		0	1
08	START ENABLE 1	NOT SEL		-6	7
09	START ENABLE 2	NOT SEL		-6	7
10	DISPLAY ALARMS	NO		0	1
11	PARAMETER VIEW	DEFAULT		0	1
12	FAN CONTROL	AUTO		0	1
13	N/A	0		0	1
20	LIMITS				
01	MINIMUM SPEED	100	rpm	-30000	30000
02	MAXIMUM SPEED	1475	rpm	0	30000
03	MAX CURRENT	42	A	0	174.6
05	OVERVOLT CTRL	DISABLE		0	1
06	UNDERVOLT CTRL	ENABLE(TIME)		0	2
07	MINIMUM FREQ	0	Hz	-500	500
08	MAXIMUM FREQ	50	Hz	0	500
13	MIN TORQUE SEL	MIN TORQUE 1		-6	7
14	MAX TORQUE SEL	MAX TORQUE 1		-6	7
15	MIN TORQUE 1	-300	%	-600	0
16	MIN TORQUE 2	-300	%	-600	0
17	MAX TORQUE 1	300	%	0	600
18	MAX TORQUE 2	300	%	0	600
21	START/STOP				
01	START FUNCTION	DC MAGN		1	8
02	STOP FUNCTION	RAMP		1	2

03	DC MAGN TIME	0.3	s	0	10
04	DC HOLD CTL	NOT SEL		0	2
05	DC HOLD SPEED	5	rpm	0	360
06	DC CURR REF	30	%	0	100
07	DC BRAKE TIME	0	s	0	250
08	START INHIBIT	OFF		0	1
09	EMERG STOP SEL	NOT SEL		-6	6
10	TORQ BOOST CURR	100	%	15	300
12	ZERO SPEED DELAY	NOT SEL	s	0	60
13	START DELAY	0	s	0	60
22	ACCEL/DECEL				
01	ACC/DEC 1/2 SEL	NOT SEL		-6	7
02	ACCELER TIME 1	5	s	0	1800
03	DECELER TIME 1	1.5	s	0	1800
04	RAMP SHAPE 1	LINEAR	s	0	1000
05	ACCELER TIME 2	60	s	0	1800
06	DECELER TIME 2	60	s	0	1800
07	RAMP SHAPE 2	LINEAR	s	0	1000
08	EMERG DEC TIME	1	s	0	1800
09	RAMP INPUT 0	NOT SEL		-6	7
23	SPEED CONTROL				
01	PROP GAIN	8		0	200
02	INTEGRATION TIME	0.5	s	0	600
03	DERIVATION TIME	0	ms	0	10000
04	ACC COMPENSATION	0	s	0	600
05	AUTOTUNE RUN	OFF		0	1
24	TORQUE CONTROL				
01	TORQ RAMP UP	0	s	0	120
02	TORQ RAMP DOWN	0	s	0	120
25	CRITICAL SPEEDS				
01	CRIT SPEED SEL	OFF		0	1
02	CRIT SPEED 1 LO	0	rpm	0	30000
03	CRIT SPEED 1 HI	0	rpm	0	30000
04	CRIT SPEED 2 LO	0	rpm	0	30000
05	CRIT SPEED 2 HI	0	rpm	0	30000
06	CRIT SPEED 3 LO	0	rpm	0	30000
07	CRIT SPEED 3 HI	0	rpm	0	30000
26	MOTOR CONTROL				
01	FLUX OPT ENABLE	OFF		0	1
02	FLUX BRAKING	OFF		0	1
03	IR COMP VOLT	3.5	V	0	100
04	IR COMP FREQ	80	%	0	100
05	U/F RATIO	LINEAR		1	2
06	SWITCHING FREQ	4	kHz	0	0
07	SWITCH FREQ CTRL	ON		0	1

08	SLIP COMP RATIO	0	%	0	200
09	NOISE SMOOTHING	DISABLE		0	1
19	DC STABILISER	DISABLE		0	1
25	N/A	1		0	1
29	MAINTENANCE TRIG				
01	COOLING FAN TRIG	0	kh	0	6553.5
02	COOLING FAN ACT	0	kh	0	6553.5
03	REVOLUTION TRIG	0	Mrev	0	65535
04	REVOLUTION ACT	0	Mrev	0	65535
05	RUN TIME TRIG	0	kh	0	6553.5
06	RUN TIME ACT	0	kh	0	6553.5
07	USER MWh TRIG	0	MWh	0	6553.5
08	USER MWh ACT	0	MWh	0	6553.5
30	FAULT FUNCTIONS				
01	AI<MIN FUNCTION	NOT SEL		0	3
02	PANEL COMM ERR	FAULT		1	3
03	EXTERNAL FAULT 1	NOT SEL		-6	6
04	EXTERNAL FAULT 2	NOT SEL		-6	6
05	MOT THERM PROT	FAULT		0	2
06	MOT THERM TIME	500	s	256	9999
07	MOT LOAD CURVE	100	%	50	150
08	ZERO SPEED LOAD	70	%	25	150
09	BREAK POINT FREQ	35	Hz	1	250
10	STALL FUNCTION	FAULT		0	2
11	STALL FREQUENCY	20	Hz	0.5	50
12	STALL TIME	20	s	10	400
17	EARTH FAULT	ENABLE		0	1
18	COMM FAULT FUNC	NOT SEL		0	3
19	COMM FAULT TIME	3	s	0	600
21	AI1 FAULT LIMIT	0	%	0	100
22	AI2 FAULT LIMIT	0	%	0	100
23	WIRING FAULT	ENABLE		0	1
24	CB TEMP FAULT	ENABLE		0	1
28	N/A	2		1	3
31	AUTOMATIC RESET				
01	NUMBER OF TRIALS	0		0	5
02	TRIAL TIME	30	s	1	600
03	DELAY TIME	0	s	0	120
04	AR OVERCURRENT	DISABLE		0	1
05	AR OVERVOLTAGE	DISABLE		0	1
06	AR UNDERVOLTAGE	DISABLE		0	1
07	AR AI<MIN	DISABLE		0	1
08	AR EXTERNAL FLT	DISABLE		0	1
32	SUPERVISION				
01	SUPERV 1 PARAM	OUTPUT FREQ		101	178
02	SUPERV 1 LIM LO	50	Hz	0	6553.5

03	SUPERV 1 LIM HI	50	Hz	0	6553.5
04	SUPERV 2 PARAM	CURRENT		101	178
05	SUPERV 2 LIM LO	97	A	0	776
06	SUPERV 2 LIM HI	97	A	0	776
07	SUPERV 3 PARAM	TORQUE		101	178
08	SUPERV 3 LIM LO	100	%	-3276.8	3276.7
09	SUPERV 3 LIM HI	100	%	-3276.8	3276.7
33	INFORMATION				
01	FIRMWARE	314E		12622	12622
02	LOADING PACKAGE	1001		4097	4097
03	TEST DATE	15.33		0	655.35
04	DRIVE RATING	1254		0	65535
05	PARAMETER TABLE	314E		12622	12622
34	PANEL DISPLAY				
01	SIGNAL1 PARAM	OUTPUT FREQ		100	178
02	SIGNAL1 MIN	0	Hz	0	6553.5
03	SIGNAL1 MAX	500	Hz	0	6553.5
04	OUTPUT1 DSP FORM	DIRECT		0	9
05	OUTPUT1 UNIT	Hz		0	127
06	OUTPUT1 MIN	0	Hz	0	6553.5
07	OUTPUT1 MAX	500	Hz	0	6553.5
08	SIGNAL2 PARAM	CURRENT		100	178
09	SIGNAL2 MIN	0	A	0	776
10	SIGNAL2 MAX	194	A	0	776
11	OUTPUT2 DSP FORM	DIRECT		0	9
12	OUTPUT2 UNIT	A		0	127
13	OUTPUT2 MIN	0	A	0	6553.5
14	OUTPUT2 MAX	194	A	0	6553.5
15	SIGNAL3 PARAM	TORQUE		100	178
16	SIGNAL3 MIN	-200	%	-3276.8	3276.7
17	SIGNAL3 MAX	200	%	-3276.8	3276.7
18	OUTPUT3 DSP FORM	DIRECT		0	9
19	OUTPUT3 UNIT	%		0	127
20	OUTPUT3 MIN	-200	%	-3276.8	3276.7
21	OUTPUT3 MAX	200	%	-3276.8	3276.7
35	MOTOR TEMP MEAS				
01	SENSOR TYPE	NONE		0	6
02	INPUT SELECTION	AI1		1	8
03	ALARM LIMIT	0		0	0
04	FAULT LIMIT	0		0	0
36	TIMED FUNCTIONS				
01	TIMERS ENABLE	NOT SEL		-6	7
02	START TIME 1	00:00:00		0	43199
03	STOP TIME 1	00:00:00		0	43199
04	START DAY 1	MONDAY		1	7
05	STOP DAY 1	MONDAY		1	7

06	START TIME 2	00:00:00		0	43199
07	STOP TIME 2	00:00:00		0	43199
08	START DAY 2	MONDAY		1	7
09	STOP DAY 2	MONDAY		1	7
10	START TIME 3	00:00:00		0	43199
11	STOP TIME 3	00:00:00		0	43199
12	START DAY 3	MONDAY		1	7
13	STOP DAY 3	MONDAY		1	7
14	START TIME 4	00:00:00		0	43199
15	STOP TIME 4	00:00:00		0	43199
16	START DAY 4	MONDAY		1	7
17	STOP DAY 4	MONDAY		1	7
22	BOOSTER SEL	NOT SEL		-6	6
23	BOOSTER TIME	00:00:00		0	43199
26	TIMED FUNC 1 SRC	NOT SEL		0	31
27	TIMED FUNC 2 SRC	NOT SEL		0	31
28	TIMED FUNC 3 SRC	NOT SEL		0	31
29	TIMED FUNC 4 SRC	NOT SEL		0	31
37	USER LOAD CURVE				
01	USER LOAD C MODE	NOT SEL		0	3
02	USER LOAD C FUNC	FAULT		1	2
03	USER LOAD C TIME	20	s	10	400
04	LOAD FREQ 1	5	Hz	0	500
05	LOAD TORQ LOW 1	10	%	0	600
06	LOAD TORQ HIGH 1	300	%	0	600
07	LOAD FREQ 2	25	Hz	0	500
08	LOAD TORQ LOW 2	15	%	0	600
09	LOAD TORQ HIGH 2	300	%	0	600
10	LOAD FREQ 3	43	Hz	0	500
11	LOAD TORQ LOW 3	25	%	0	600
12	LOAD TORQ HIGH 3	300	%	0	600
13	LOAD FREQ 4	50	Hz	0	500
14	LOAD TORQ LOW 4	30	%	0	600
15	LOAD TORQ HIGH 4	300	%	0	600
16	LOAD FREQ 5	500	Hz	0	500
17	LOAD TORQ LOW 5	30	%	0	600
18	LOAD TORQ HIGH 5	300	%	0	600
40	PROCESS PID SET 1				
01	GAIN	1		0.1	100
02	INTEGRATION TIME	60	s	0	3600
03	DERIVATION TIME	0	s	0	10
04	PID DERIV FILTER	1	s	0	10
05	ERROR VALUE INV	NO		0	1
06	UNITS	%		0	255
07	UNIT SCALE	1		0	4
08	0% VALUE	0	%	-3276.8	3276.7
09	100% VALUE	100	%	-3276.8	3276.7
10	SET POINT SEL	All		0	20



11	INTERNAL SETPNT	40	%	-3276.8	3276.7
12	SETPOINT MIN	0	%	-500	500
13	SETPOINT MAX	100	%	-500	500
14	FBK SEL	ACT1		1	13
15	FBK MULTIPLIER	0		-33	33
16	ACT1 INPUT	AI2		1	7
17	ACT2 INPUT	AI2		1	7
18	ACT1 MINIMUM	0	%	-1000	1000
19	ACT1 MAXIMUM	100	%	-1000	1000
20	ACT2 MINIMUM	0	%	-1000	1000
21	ACT2 MAXIMUM	100	%	-1000	1000
22	SLEEP SELECTION	NOT SEL		-6	7
23	PID SLEEP LEVEL	0	rpm	0	30000
24	PID SLEEP DELAY	60	s	0	3600
25	WAKE-UP DEV	0	%	0	3276.7
26	WAKE-UP DELAY	0.5	s	0	60
27	PID 1 PARAM SET	SET 1		-6	14
41	PROCESS PID SET 2				
01	GAIN	1		0.1	100
02	INTEGRATION TIME	60	s	0	3600
03	DERIVATION TIME	0	s	0	10
04	PID DERIV FILTER	1	s	0	10
05	ERROR VALUE INV	NO		0	1
06	UNITS	%		0	255
07	UNIT SCALE	1		0	4
08	0% VALUE	0	%	-3276.8	3276.7
09	100% VALUE	100	%	-3276.8	3276.7
10	SET POINT SEL	AI1		0	20
11	INTERNAL SETPNT	40	%	-3276.8	3276.7
12	SETPOINT MIN	0	%	-500	500
13	SETPOINT MAX	100	%	-500	500
14	FBK SEL	ACT1		1	13
15	FBK MULTIPLIER	0		-33	33
16	ACT1 INPUT	AI2		1	7
17	ACT2 INPUT	AI2		1	7
18	ACT1 MINIMUM	0	%	-1000	1000
19	ACT1 MAXIMUM	100	%	-1000	1000
20	ACT2 MINIMUM	0	%	-1000	1000
21	ACT2 MAXIMUM	100	%	-1000	1000
22	SLEEP SELECTION	NOT SEL		-6	7
23	PID SLEEP LEVEL	0	rpm	0	30000
24	PID SLEEP DELAY	60	s	0	3600
25	WAKE-UP DEV	0	%	0	3276.7
26	WAKE-UP DELAY	0.5	s	0	60
42	EXT / TRIM PID				
01	GAIN	1		0.1	100
02	INTEGRATION TIME	60	s	0	3600
03	DERIVATION TIME	0	s	0	10

04	PID DERIV FILTER	1	s	0	10
05	ERROR VALUE INV	NO		0	1
06	UNITS	%		0	255
07	UNIT SCALE	1		0	4
08	0% VALUE	0	%	-3276.8	3276.7
09	100% VALUE	100	%	-3276.8	3276.7
10	SET POINT SEL	AI1		0	19
11	INTERNAL SETPNT	40	%	-3276.8	3276.7
12	SETPOINT MIN	0	%	-500	500
13	SETPOINT MAX	100	%	-500	500
14	FBK SEL	ACT1		1	13
15	FBK MULTIPLIER	0		-33	33
16	ACT1 INPUT	AI2		1	7
17	ACT2 INPUT	AI2		1	7
18	ACT1 MINIMUM	0	%	-1000	1000
19	ACT1 MAXIMUM	100	%	-1000	1000
20	ACT2 MINIMUM	0	%	-1000	1000
21	ACT2 MAXIMUM	100	%	-1000	1000
28	ACTIVATE	NOT SEL		-6	12
29	OFFSET	0	%	0	100
30	TRIM MODE	NOT SEL		0	2
31	TRIM SCALE	0	%	-100	100
32	CORRECTION SRC	PID2REF		1	2
45	ENERGY SAVING				
02	ENERGY PRICE	0		0	655.35
07	CO2 CONV FACTOR	0.5		0	10
08	PUMP POWER	100	%	0	1000
09	ENERGY RESET	DONE		0	1
50	ENCODER				
01	PULSE NR	1024		50	16384
02	ENCODER ENABLE	DISABLE		0	1
03	ENCODER FAULT	FAULT		1	2
10	Z PLS ENABLE	DISABLE		0	1
11	POSITION RESET	DISABLE		0	1
51	EXT COMM MODULE				
01	FBA TYPE	PROFIBUS-DP		0	65535
02	FBA PAR 2	26		0	65535
03	FBA PAR 3	1500		0	65535
04	FBA PAR 4	1		0	65535
05	FBA PAR 5	0		0	65535
06	FBA PAR 6	103		0	65535
07	FBA PAR 7	0		0	65535
08	FBA PAR 8	104		0	65535
09	FBA PAR 9	0		0	65535
10	FBA PAR 10	105		0	65535
11	FBA PAR 11	0		0	65535
12	FBA PAR 12	106		0	65535

13	FBA PAR 13	0	0	65535
14	FBA PAR 14	0	0	65535
15	FBA PAR 15	0	0	65535
16	FBA PAR 16	0	0	65535
17	FBA PAR 17	0	0	65535
18	FBA PAR 18	0	0	65535
19	FBA PAR 19	0	0	65535
20	FBA PAR 20	0	0	65535
21	FBA PAR 21	0	0	65535
22	FBA PAR 22	0	0	65535
23	FBA PAR 23	0	0	65535
24	FBA PAR 24	0	0	65535
25	FBA PAR 25	0	0	65535
26	FBA PAR 26	0	0	65535
27	FBA PAR REFRESH	DONE	0	1
28	FILE CPI FW REV	114	0	65535
29	FILE CONFIG ID	201	0	65535
30	FILE CONFIG REV	16	0	65535
31	FBA STATUS	OFF-LINE	0	6
32	FBA CPI FW REV	132	0	65535
33	FBA APPL FW REV	309	0	65535
52	PANEL COMM			
01	STATION ID	1	1	247
02	BAUD RATE	96	0	0
03	PARITY	8 NONE 1	0	3
04	OK MESSAGES	53180	0	65535
05	PARITY ERRORS	0	0	65535
06	FRAME ERRORS	0	0	65535
07	BUFFER OVERRUNS	0	0	65535
08	CRC ERRORS	25	0	65535
53	EFB PROTOCOL			
01	EFB PROTOCOL ID	0	0	65535
02	EFB STATION ID	1	0	65535
03	EFB BAUD RATE	96	0	0
04	EFB PARITY	8 NONE 1	0	3
05	EFB CTRL PROFILE	ABB DRV LIM	0	2
06	EFB OK MESSAGES	21666	0	65535
07	EFB CRC ERRORS	0	0	65535
08	EFB UART ERRORS	0	0	65535
09	EFB STATUS	IDLE	0	7
10	EFB PAR 10	0	0	65535
11	EFB PAR 11	0	0	65535
12	EFB PAR 12	0	0	65535
13	EFB PAR 13	0	0	65535
14	EFB PAR 14	0	0	65535
15	EFB PAR 15	0	0	65535
16	EFB PAR 16	0	0	65535
17	EFB PAR 17	0	0	65535

18	EFB PAR 18	0		0	65535
19	EFB PAR 19	0		0	65535
20	EFB PAR 20	0		0	65535
64	LOAD ANALYZER				
01	PVL SIGNAL	OUTPUT FREQ		100	178
02	PVL FILTER TIME	0.1	s	0	120
03	LOGGERS RESET	NOT SEL		-6	7
04	AL2 SIGNAL	OUTPUT FREQ		100	178
05	AL2 SIGNAL BASE	50	Hz	0	6553.5
06	PEAK VALUE	49.5	Hz	0	6553.5
07	PEAK TIME 1	8540	d	0	65535
08	PEAK TIME 2	15:01:52		0	65535
09	CURRENT AT PEAK	13	A	0	194
10	UDC AT PEAK	613	V	0	1000
11	FREQ AT PEAK	49.6	Hz	0	500
12	TIME OF RESET 1	0	d	0	65535
13	TIME OF RESET 2	00:00:00		0	65535
14	AL1RANGE0TO10	79.8	%	0	100
15	AL1RANGE10TO20	20.1	%	0	100
16	AL1RANGE20TO30	0.1	%	0	100
17	AL1RANGE30TO40	0	%	0	100
18	AL1RANGE40TO50	0	%	0	100
19	AL1RANGE50TO60	0	%	0	100
20	AL1RANGE60TO70	0	%	0	100
21	AL1RANGE70TO80	0	%	0	100
22	AL1RANGE80TO90	0	%	0	100
23	AL1RANGE90TO	0	%	0	100
24	AL2RANGE0TO10	78.8	%	0	100
25	AL2RANGE10TO20	10	%	0	100
26	AL2RANGE20TO30	1.3	%	0	100
27	AL2RANGE30TO40	1.6	%	0	100
28	AL2RANGE40TO50	0.4	%	0	100
29	AL2RANGE50TO60	0.3	%	0	100
30	AL2RANGE60TO70	0.5	%	0	100
31	AL2RANGE70TO80	0.4	%	0	100
32	AL2RANGE80TO90	0.9	%	0	100
33	AL2RANGE90TO	5.8	%	0	100
81	PFC CONTROL				
03	REFERENCE STEP 1	0	%	0	100
04	REFERENCE STEP 2	0	%	0	100
05	REFERENCE STEP 3	0	%	0	100
09	START FREQ 1	50	Hz	0	500
10	START FREQ 2	50	Hz	0	500
11	START FREQ 3	50	Hz	0	500
12	LOW FREQ 1	25	Hz	0	500
13	LOW FREQ 2	25	Hz	0	500
14	LOW FREQ 3	25	Hz	0	500
15	AUX MOT START D	5	s	0	3600

16	AUX MOT STOP D	3	s	0	3600
17	NR OF AUX MOT	1		0	4
18	AUTOCHNG INTERV	NOT SEL	h	-0.1	336
19	AUTOCHNG LEVEL	50	%	0	100
20	INTERLOCKS	DI4		0	6
21	REG BYPASS CTRL	NO		0	1
22	PFC START DELAY	0.5	s	0	10
23	PFC ENABLE	NOT SEL		0	1
24	ACC IN AUX STOP	NOT SEL	s	0	1800
25	DEC IN AUX START	NOT SEL	s	0	1800
26	TIMED AUTOCHNG	NOT SEL		0	4
27	MOTORS	2		1	7
28	AUX START ORDER	EVEN RUNTIME		1	2
98	OPTIONS				
02	COMM PROT SEL	EXT FBA		0	4