

Programming Guide
ERC 21X
Modbus parameter



ERC 211 - 1 relay
Software version: 4.13

Modbus parameter	PNU no	Value	Min.	Max.	Type	R/W	Scale
Configuration							
r12 Main switch	117	2	0	2	enum	R/W	1
o61 Predefined applications	2077	0	0	5	enum	R/W	1
o06 Sensor type selection	2014	1	0	3	enum	R/W	1
Reference							
r00 Setpoint	100	2	-100	200	Float	R/W	0.01
r01 Differential	101	2	0.1	20	Float	R/W	0.01
r02 Min SP limitation	103	-35	-100	200	Float	R/W	0.01
r03 Max SP limitation	102	50	-100	200	Float	R/W	0.01
r04 Display offset	104	0	-10.0	10.0	Float	R/W	0.01
r05 Display Unit	105	0	0	1	Boolean	R/W	1
r09 Calibration of Sair	113	0	-20	20	Float	R/W	0.01
r12 Main switch	117	2	0	2	enum	R/W	1
r13 Night setback/ECO mode	125	0	-50	50	Float	R/W	0.01
r40 Value of reference displacement	151	0	-50	50	Float	R/W	0.01
r96 Compressor Runtime continuous cycle	214	0	0	990	Integer	R/W	1
r97 Setpoint at continuous cycle (exit temp)	215	0	-100	200	Float	R/W	0.01
Alarm							
A03 Alarm delay	10002	30	0	240	Integer	R/W	1
A12 Alarm delay pulldown/start up/defrost	10018	60	0	240	Integer	R/W	1
A13 High temperature alarm limit	10019	8	-100	200	Float	R/W	0.01
A14 Low temperature alarm limit	10020	-30	-100	200	Float	R/W	0.01
A27 DI1 delay	10028	30	0	240	Integer	R/W	1
A37 Condenser High alarm limit	10038	80	0	200	Float	R/W	0.01
A54 Condenser High block limit	10055	85	0	200	Float	R/W	0.01
A72 Voltage protection	10084	0	0	1	Boolean	R/W	1
A73 Minimum cut-in voltage	10085	0	0	270	Integer	R/W	1
A74 Minimum cut-out voltage	10086	0	0	270	Integer	R/W	1
A75 Maximum voltage	10087	270	0	270	Integer	R/W	1
Defrost							
d01 Defrost type	1000	2	0	3	enum	R/W	1
do2 Def stop temperature	1001	6	0	50	Float	R/W	0.01
do3 Def. Interval	1002	8	0	240	Integer	R/W	1
d04 Max def. Time	1003	30	0	480	Integer	R/W	1
d05 Defrost delay at power up (or DI signal)	1004	0	0	240	Integer	R/W	1
d06 Drip delay	1005	0	0	60	Integer	R/W	1
d10 Def stop sensor	1009	0	0	1	enum	R/W	1
d18 Compressor accumulated runtime to start defrost	1020	0	0	96	Integer	R/W	1
d30 Defrost delay after continuous cycle	1048	0	0	960	Integer	R/W	1
Compressor							
C01 Compressor min ON time	500	0	0	30	Integer	R/W	1
C02 Compressor min OFF time	501	2	0	30	Integer	R/W	1
C04 Compressor OFF delay at open door	504	0	0	15	Integer	R/W	1
C70 Zero crossing selection (External relay or not)	540	1	0	1	Boolean	R/W	1
Others							
o01 Delay of outputs at startup	2000	5	0	600	Integer	R/W	1
o02 DI1 configuration	2001	0	0	10	enum	R/W	1
o03 Serial address	2008	0	0	247	Integer	R/W	1
o05 Password	2013	0	0	999	Integer	R/W	1
o06 Sensor type selection	2014	1	0	3	enum	R/W	1
o07 Cooling/Heating	2024	0	1	1	Boolean	R/W	1
o15 Display Resolution	2019	0	0	1	enum	R/W	1
o23 Relay 1 counter	2035	---	0	999	Integer	R	1
O61 Predefined applications	2077	0	0	5	enum	R/W	1
o67 Save settings as factory	64053	0	0	1	Boolean	R/W	1
o91 Display at defrost	2122	2	0	2	enum	R/W	1

**ERC 211 - 1 relay
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Modbus parameter	PNU no	Value	Min.	Max.	Type	R/W	Scale
Polarity							
P73 DI1 input polarity	2187	1	0	1	Boolean	R/W	1
P76 Key board lock	2190	0	0	1	Boolean	R/W	1
Read outs							
u00 Controller status	2007		0	8	Integer	R	1
u01 Sair	2530		-100	200	Float	R	0.01
u02 Read the present regulation reference	2501		-100	200	Float	R	0.01
U09 Sc condenser temperature	2647		-100	200	Float	R	0.01
u10 DI1 input	2002		0	1	Boolean	R	1
u13 Status on night operation (on or off)	2533		0	1	Boolean	R	1
u58 Compressor relay status	2510		0	1	Boolean	R	1
u80 Firmware version readout	2003		-32768	32767	Float	R	0.01

**ERC 213 - 3 relays
Software version: 4.16**

Modbus parameter	PNU no	Value	Min.	Max.	Type	R/W	Scale
Configuration							
r12 Main switch	117	2	0	2	enum	R/W	1
o61 Predefined applications	2077	0	0	5	enum	R/W	1
o06 Sensor type selection	2014	1	0	3	enum	R/W	1
o71 D02 config	2084	0	0	1	enum	R/W	1
Reference							
r00 Setpoint	100	2	-100	200	Float	R/W	0.01
r01 Differential	101	2	0.1	20	Float	R/W	0.01
r02 Min SP limitation	103	-35	-100	200	Float	R/W	0.01
r03 Max SP limitation	102	50	-100	200	Float	R/W	0.01
r04 Display offset	104	0	-10.0	10.0	Float	R/W	0.01
r05 Display Unit	105	0	0	1	Boolean	R/W	1
r09 Calibration of Sair	113	0	-20	20	Float	R/W	0.01
r12 Main switch	117	2	0	2	enum	R/W	1
r13 Night setback/ECO mode	125	0	-50	50	Float	R/W	0.01
r40 Value of reference displacement	151	0	-50	50	Float	R/W	0.01
r96 Comp. Runtime continous cycle	214	0	0	990	Integer	R/W	1
r97 Setpoint at continous cycle (exit temperature)	215	0	-100	200	Float	R/W	0.01
Alarm							
A03 Alarm delay	10002	30	0	240	Integer	R/W	1
A12 Alarm delay pulldown/start up/defrost	10018	60	0	240	Integer	R/W	1
A13 High temp. alarm limit	10019	8	-100	200	Float	R/W	0.01
A14 Low temperature alarm limit	10020	-30	-100	200	Float	R/W	0.01
A27 DI1 delay	10028	30	0	240	Integer	R/W	1
A28 DI2 delay	10029	30	0	240	Integer	R/W	1
A37 Condenser High alarm limit	10038	80	0	200	Float	R/W	0.01
A54 Condenser High block limit	10055	85	0	200	Float	R/W	0.01
A72 Voltage protection	10084	0	0	1	Boolean	R/W	1
A73 Minimum cut-in voltage	10085	0	0	270	Integer	R/W	1
A74 Minimum cut-out voltage	10086	0	0	270	Integer	R/W	1
A75 Maximum voltage	10087	270	0	270	Integer	R/W	1
Defrost							
d01 Defrost type	1000	2	0	3	enum	R/W	1
do2 Def stop temperature	1001	6	0	50	Float	R/W	0.01
do3 Def. Interval	1002	8	0	240	Integer	R/W	1
d04 Max def. Time	1003	30	0	480	Integer	R/W	1
d05 Defrost delay at power up (or DI signal)	1004	0	0	240	Integer	R/W	1
d06 Drip delay	1005	0	0	60	Integer	R/W	1
d07 Fan delay after defrost	1007	0	0	60	Integer	R/W	1
d08 Fan start temperature after defrost	1006	-5	-50	0	Float	R/W	1
d09 Fan during defrost	1008	1	0	1	Boolean	R/W	1
d10 Def stop sensor	1009	0	0	2	enum	R/W	1

ERC 213 - 3 relays
Software version: 4.16

Modbus parameter	PNU no	Value	Min.	Max.	Type	R/W	Scale
d18 Compressor accumulated runtime to start defrost	1020	0	0	96	Integer	R/W	1
d19 Defrost on demand	1021	20	0	20	Float	R/W	0.01
d30 Defrost delay after continous cycle	1048	0	0	960	Integer	R/W	1

Fan control

F01 Fan at comp. OFF	1500	1	0	2	enum	R/W	1
F04 Fan stop evap. Temperature	1505	50	-50	50	Float	R/W	0.01
F07 Fan ON Cycle	1508	2	0	15	Integer	R/W	1
F08 Fan OFF cycle	1509	2	0	15	Integer	R/W	1

Compressor

C01 Compressor min ON time	500	0	0	30	Integer	R/W	1
C02 Compressor min OFF time	501	2	0	30	Integer	R/W	1
C04 Compressor OFF delay at open door	504	0	0	15	Integer	R/W	1
C70 Zero crossing selection (External relay or not)	540	1	0	1	Boolean	R/W	1

Others

o01 Delay of outputs at startup	2000	5	0	600	Integer	R/W	1
o02 DI1 config	2001	0	0	10	enum	R/W	1
o03 Serial address	2008	0	0	247	Integer	R/W	1
o05 Password	2013	0	0	999	Integer	R/W	1
o06 Sensor type selection	2014	1	0	3	enum	R/W	1
o15 Display Resolution	2019	0	0	1	enum	R/W	1
o23 Relay 1 counter	2035	---	0	999	Integer	R	1
o24 Relay 2 counter	2036	---	0	999	Integer	R	1
o25 Relay 3 counter	2037	---	0	999	Integer	R	1
o37 DI2 config	2055	0	0	10	enum	R/W	1
O61 Predefined applications	2077	0	0	5	enum	R/W	1
o67 Save settings as factory	64053	0	0	1	Boolean	R/W	1
o71 D02 config	2084	0	0	1	Boolean	R/W	1
o91 Display at defrost	2122	2	0	2	enum	R/W	1

Polarity

P73 DI1 input polarity	2187	1	0	1	Boolean	R/W	1
P74 DI2 input polarity	2188	1	0	1	Boolean	R/W	1
P75 Invert alarm relay	2189	0	0	1	Boolean	R/W	1
P76 Key board lock	2190	0	0	1	Boolean	R/W	1

Read outs

u00 Controller status	2007		0	8	Integer	R	1
u01 Sair	2530		-100	200	Float	R	0.01
u02 Read the present regulation reference	2501		-100	200	Float	R	0.01
u09 Sdef	1011		-100	200	Float	R	0.01
U09 Sc condenser temperature	2647		-100	200	Float	R	0.01
u10 Di1 input	2002		0	1	Boolean	R	1
u13 Status on night operation (on or off)	2533		0	1	Boolean	R	1
u37 Di2 input	2556		0	1	Boolean	R	1
u58 Compressor relay status	2510		0	1	Boolean	R	1
u59 Fan relay status	2511		0	1	Boolean	R	1
u60 Defrost relay status	2512		0	1	Boolean	R	1
u62 Alarm relay status	2583		0	1	Boolean	R	1
u80 Firmware version readout	2003		-32768	32767	Float	R	0.01

ERC 214 - 4 relays
Software version: 4.16

Modbus parameter	PNU no	Value	Min.	Max.	Type	R/W	Scale
Configuration							
r12 Main switch	117	2	0	2	enum	R/W	1
o61 Predefined applications	2077	0	0	5	enum	R/W	1
o06 Sensor type selection	2014	1	0	3	enum	R/W	1
o36 D04 config	2084	0	0	1	enum	R/W	1
Reference							
r00 Setpoint	100	2	-100	200	Float	R/W	0.01
r01 Differential	101	2	0.1	20	Float	R/W	0.01
r02 Min SP limitation	103	-35	-100	200	Float	R/W	0.01
r03 Max SP limitation	102	50	-100	200	Float	R/W	0.01
r04 Display offset	104	0	-10.0	10.0	Float	R/W	0.01
r05 Display Unit	105	0	0	1	Boolean	R/W	1
r09 Calibration of Sair	113	0	-20	20	Float	R/W	0.01
r12 Main switch	117	2	0	2	enum	R/W	1
r13 Night setback/ECO mode	125	0	-50	50	Float	R/W	0.01
r40 Value of reference displacement	151	0	-50	50	Float	R/W	0.01
r96 Compressor Runtime continous cycle	214	0	0	990	Integer	R/W	1
r97 Setpoint at continous cycle (exit temp)	215	0	-100	200	Float	R/W	0.01
Alarm							
A03 Alarm delay	10002	30	0	240	Integer	R/W	1
A12 Alarm delay pulldown/start up/defrost	10018	60	0	240	Integer	R/W	1
A13 High temp. alarm limit	10019	8	-100	200	Float	R/W	0.01
A14 Low temperature alarm limit	10020	-30	-100	200	Float	R/W	0.01
A27 DI1 delay	10028	30	0	240	Integer	R/W	1
A28 DI2 delay	10029	30	0	240	Integer	R/W	1
A37 Condenser High alarm limit	10038	80	0	200	Float	R/W	0.01
A54 Condenser High block limit	10055	85	0	200	Float	R/W	0.01
A72 Voltage protection	10084	0	0	1	Boolean	R/W	1
A73 Minimum cut-in voltage	10085	0	0	270	Integer	R/W	1
A74 Minimum cut-out voltage	10086	0	0	270	Integer	R/W	1
A75 Maximum voltage	10087	270	0	270	Integer	R/W	1
Defrost							
d01 Defrost type	1000	2	0	3	enum	R/W	1
do2 Def stop temperature	1001	6	0	50	Float	R/W	0.01
do3 Def. Interval	1002	8	0	240	Integer	R/W	1
d04 Max def. Time	1003	30	0	480	Integer	R/W	1
d05 Defrost delay at power up (or DI signal)	1004	0	0	240	Integer	R/W	1
d06 Drip delay	1005	0	0	60	Integer	R/W	1
d07 Fan delay after defrost	1007	0	0	60	Integer	R/W	1
d08 Fan start temperature after def	1006	-5	-50	0	Float	R/W	1
d09 Fan during defrost	1008	1	0	1	Boolean	R/W	1
d10 Def stop sensor	1009	0	0	2	enum	R/W	1
d18 Compressor accumulated runtime to start defrost	1020	0	0	96	Integer	R/W	1
d19 Defrost on demand	1021	20	0	20	Float	R/W	0.01
d30 Defrost delay after continous cycle	1048	0	0	960	Integer	R/W	1
Fan control							
F01 Fan at comp. OFF	1500	1	0	2	enum	R/W	1
F04 Fan stop evap. Temperature	1505	50	-50	50	Float	R/W	0.01
F07 Fan ON Cycle	1508	2	0	15	Integer	R/W	1
F08 Fan OFF cycle	1509	2	0	15	Integer	R/W	1
Compressor							
C01 Compressor min ON time	500	0	0	30	Integer	R/W	1
C02 Compressor min OFF time	501	2	0	30	Integer	R/W	1
C04 Compressor OFF delay at open door	504	0	0	15	Integer	R/W	1
C70 Zero crossing selection (External relay or not)	540	1	0	1	Boolean	R/W	1

ERC 214 - 4 relays
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Modbus parameter	PNU no	Value	Min.	Max.	Type	R/W	Scale
Others							
o01 Delay of outputs at startup	2000	5	0	600	Integer	R/W	1
o02 DI1 config	2001	0	0	10	enum	R/W	1
o03 Serial address	2008	0	0	247	Integer	R/W	1
o05 Password	2013	0	0	999	Integer	R/W	1
o06 Sensor type selection	2014	1	0	3	enum	R/W	1
o15 Display Resolution	2019	0	0	1	enum	R/W	1
o23 Relay 1 counter	2035	---	0	999	Integer	R	1
o24 Relay 2 counter	2036	---	0	999	Integer	R	1
o25 Relay 3 counter	2037	---	0	999	Integer	R	1
o26 Relay 4 counter	2038	---	0	999	Integer	R	1
036 D04 config	2045	0	0	1	Boolean	R/W	1
o37 DI2 config	2055	0	0	10	enum	R/W	1
061 Predefined applications	2077	0	0	5	enum	R/W	1
o67 Save settings as factory	64053	0	0	1	Boolean	R/W	1
o91 Display at defrost	2122	2	0	2	enum	R/W	1
Polarity							
P73 DI1 input polarity	2187	1	0	1	Boolean	R/W	1
P74 DI2 input polarity	2188	1	0	1	Boolean	R/W	1
P75 Invert alarm relay	2189	0	0	1	Boolean	R/W	1
P76 Key board lock	2190	0	0	1	Boolean	R/W	1
Read outs							
u00 Controller status	2007		0	8	Integer	R	1
u01 Sair	2530		-100	200	Float	R	0.01
u02 Read the present regulation reference	2501		-100	200	Float	R	0.01
u09 Sdef	1011		-100	200	Float	R	0.01
U09 Sc condenser temp.	2647		-100	200	Float	R	0.01
u10 Di1 input	2002		0	1	Boolean	R	1
u13 Status on night operation (on or off)	2533		0	1	Boolean	R	1
u37 Di2 input	2556		0	1	Boolean	R	1
u58 Compressor relay status	2510		0	1	Boolean	R	1
u59 Fan relay status	2511		0	1	Boolean	R	1
u60 Defrost relay status	2512		0	1	Boolean	R	1
u62 Alarm relay status	2583		0	1	Boolean	R	1
u63 Light relay status	2584		0	1	Boolean	R	1
u80 Firmware version readout	2003		-32768	32767	Float	R	0.01