EWCM8400/8600/8900 - Serial Communication Protocol - Compressor Rack Controller on 13DIN Rail

EN

Invensys Controls
An Invensys Company

CONTENTS

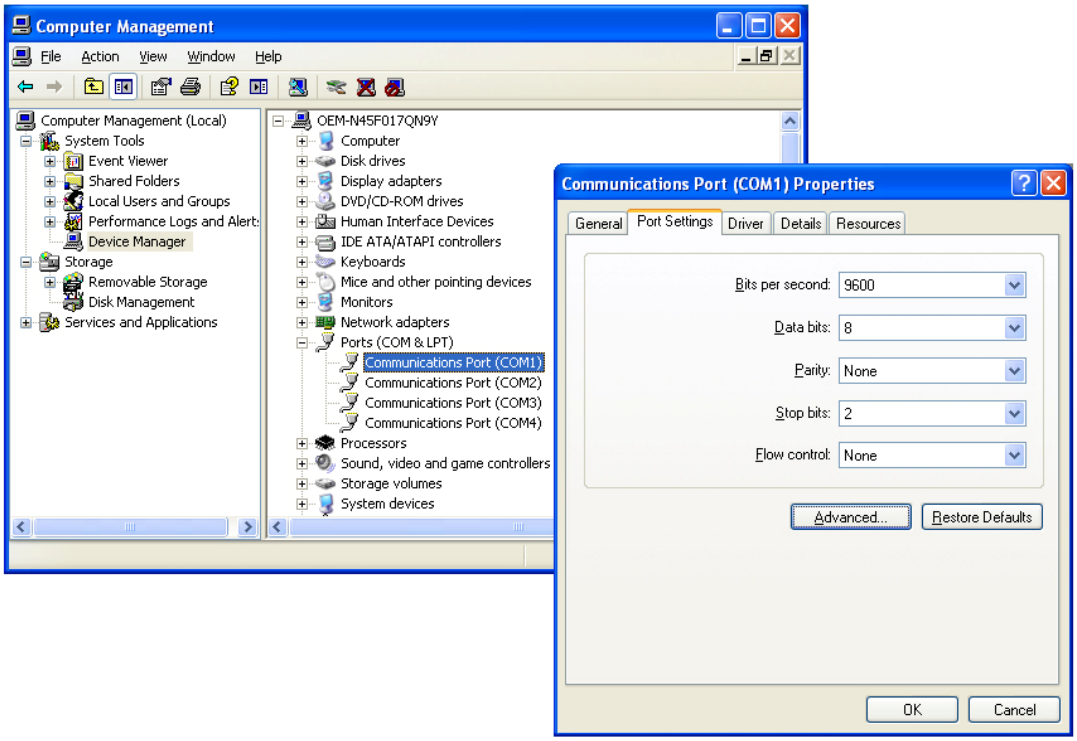
1 MODBUS FUNCTIONS AND RESOURCES

Modbus is a client/server communication protocol between devices connected on a *network*.
Modbus instruments communicate using a master/slave technique in which only one device (master) can send messages. The other devices on the *network* (slave) respond by returning the data requested by the master or performing the action indicated in the message sent. A slave is a device connected to the *network* that processes information and sends the results to the master using the Modbus protocol.
The master can send messages to individual slaves, or send messages to the whole *network* (broadcast), whereas the slave instruments respond to the messages only individually and to the master device.
The Modbus standard used by Eliwell provides for the use of RTU coding for data transmission.

1.1 Data format (RTU)

The coding model used defines the structure of messages transmitted on the *network* and the way in which this information is decoded. The type of coding is normally selected according to specific parameters (baud rate, parity, etc.), also, certain devices only support certain coding models, however it must be the same for all the instruments connected to a Modbus *network*.
The protocol uses the binary RTU method with the byte made up as follows:
8 bits for data, even parity configurable, 1 stop bit.

PLEASE NOTE: if you set parameter 675 – PtytLV = 0 (NONE) then
It is mandatory to set the COM stop bit of your PC to 2
My Computer > Properties > Hardware > Device Manager > Ports (COM & LPT) > Communications Port > Port Settings > Stop bits = 2

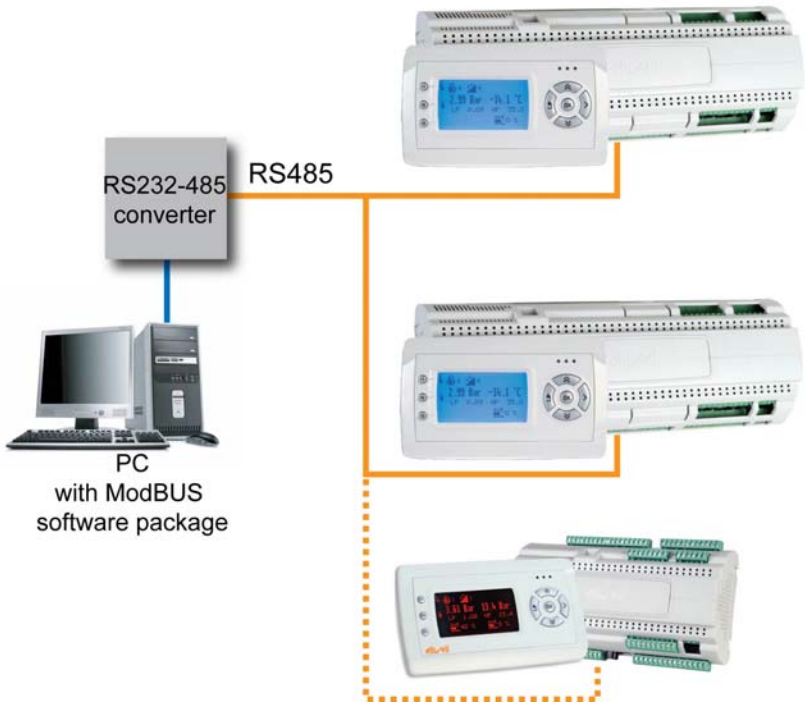


NOTE: the transmission speed could be set to 9600 baud.
Setting the parameters allows the *instrument* to be fully configurable
They can be modified by means of:

- instrument keyboard
- copy Card
- sending the data using the ModBus protocol, directly to an individual instrument, or by broadcast, using *address* 0 (broadcast)

1.2 Network

ModBus to multiple device connection diagram



1.3 Modbus functions available and data areas

Function Code	*Command description*
3	Read 16 consecutive registers for Client side Read 1 single register for parameters.
16	Write 15 consecutive registers for Client side Write 1 register for parameters

Product identification

43	Reading instrument ID. The following fields can be read:

Field code	*Field description*
0	Manufacturer ID(="Invensys")
1	Instrument policarbonate ID
2	Instrument family(msk)/version ID

IMPORTANT! The reading of 2 registers (WORD) must be requested to obtain 1 in response. If reading of only one register is requested a reading of the highest byte will be obtained.

IMPORTANT! To write values to WORD it is necessary to send a write request with 2 registers, and a dimension 2 response will be obtained.

1.4 Address Configuration

The *address* of a device inside a ModBus message is made up of one byte and is formed of the family code and the instrument code, made up of parameters dEA and FAA respectively.
The *address* (Device *Address*) is thus formed of two nibbles:

- **dEA:** low nibble
- **FAA:** high nibble

INSTRUMENT CONFIGURATION PARAMETERS			
Par.	Description	*Range*	Value
672 - dEA	Family serial *address*	0...14	0
671 - FAA	Device serial *address*	0...14	0

To calculate the *address* ***address*** = **dEA** x 16 + **FAA**
Example: *address* (HEX) 16 (dEA=01; FAA=00)

Address 0 is used for broadcast messages, which are recognised by all slaves. Slaves do not respond to a broadcast type request.

1.5 Address tables

1.5.1 Description of parameters

The ***address tables*** contain the information required to read, write and decode each individual resource accessible in the instrument.
There are two tables:

- the ***parameters*** *table* contains all the device configuration parameters stored in the instrument's non-volatile memory.
- the ***client*** *table* includes all the I/O and alarm status resources available in the instrument's volatile memory.

Description of columns:

INDEX For the ***parameters*** *table* this value represents the order in which the parameter is displayed in the instrument's menu. For the ***client*** *table* this value is not significant.

FOLDER This indicates the *label* of the *folder* containing the parameter in question. For the ***client*** *table* this value is not significant.

LABEL This indicates the *label* used to display the **parameters** in the instrument's menu.

ADDRESS The whole part represents the *address* of the MODBUS register containing the value of the resource to be read or written in the
instrument. The value after the point indicates the position of the most significant data bit inside the register; if not indicated it is taken as zero. This information is always provided when the register contains more than one information item, and it is necessary to distinguish which bits actually represent the data (the working size of the data indicated in the column *DATA SIZE* is also taken into consideration). Given that the modbus registers have the size of one WORD (16 bit), the *index* number after the point can vary from 0 (least significant bit –LSb–) to 15 (most significant bit –MSb–).
Examples (in binary form the least significant bit is the first on the right):

ADDRESS	Contents of register	*DATA SIZE*	Value
8806	1350 (0000010101000110)	WORD	1350
8806	1350 (00000101**01000110**)	Byte	70
8806,8	1350 (**00000101**01000110)	Byte	5
8806,14	1350 (**00**0001010100011 0)	1 bit	0
8806,7	1350 (00000**1010**1000110)	4 bit	10

Important: when the register contains more than one data item, during the write operation proceed as follows:

- read current register value
- modify the bits that represent the resource concerned
- write the register

R/W Indicates the option of reading or writing the resource:

R	the resource is read-only
W	the resource is write-only
RW	the resource can be both read and written

DATA SIZE Indicates the size of the data in bits.

WORD	=	16 bits
Byte	=	8 bits
"n" bit	=	0...15 bits based on the value of "n"

CPL When the field indicates "Y", the value read by the register requires conversion, because the value represents a number with a sign. In the other cases the value is always positive or null.
To carry out conversion, proceed as follows:
if the value in the register is between 0 and 32.767, the result is the value itself (zero and positive values)
if the value in the register is between 32.768 and 65.535, the result is the value of the register – 65.536 (negative values)

RANGE Describes the interval of values that can be assigned to the parameter. It can be correlated with other parameters in the instrument (indicated with the parameter *label*).

DEFAULT Indicates the factory-set value for the standard model of the instrument.

EXP This is the multiplier *index* to be applied for converting the value read from the register to the values indicated in the *RANGE* and *DEFAULT* column to convert them into the final values according to the measurement unit indicated in the column ***M.U.***
The multiplier is calculated with the base 10 exponential function and with the exponent indicated in the ***EXP*** column. When not indicated the value is 0. The following values are valid:

Value		Corresponding multiplier	
-2	=	10^{-2}	(0.01)
-1	=	10^{-1}	(0.1)
0	=	10^{0}	(1)
1	=	10^{1}	(10)
2	=	10^{2}	(100)

M.U. Measurement unit for values converted according to the rules indicated in the *CPL* and *EXP* columns.

1.5.2 Parameters table

(see next page)

Please Note: Refer to MSK398

NOTE: ALL the values in bar / PSI are expressed in Absolute Pressure and are dependent on parameter 543 - rELP where not expressly indicated

NOTE: Calibration and thereshold always displayed as an absolute value. Not dependent on parameter 543 – rELP

Calibration Pb
NOTE: Inputs are shown with 2 different values
- Pb1...Pb4 in °C/°F

Calibration and thereshold SIG
NOTE: SIG Inputs are shown with 2 different values depending on
- SIG2 in bar/PS depending on 651 - HSig2 - High Precision

Example: SIG2
Suction
- 651-Hsig1 - High Precision = 1 --> *EXP* = -2
- 651-HSig1 - High Precision = 0 --> *EXP* = -1

NOTE: Some parameters are duplicated/quadruplicated depending on the unit of measurement shown on the display.
For example, the parameter for the 131 - LSE Compressors minimum setpoint *folder* is quadrupled as:
- 131 - LSE minimum setpoint °C
- 131 - LSE minimum setpoint °F
- 131 - LSE minimum setpoint bar
- 131 - LSE minimum setpoint PSI

In the following *parameters table*, the parameter is repeated 4 times on 4 separate lines.

INDEX	*FOLDER*	*LABEL*	*ADDRESS*	*R/W*	DESCRIPTION	*DATA SIZE*	*CPL*	*RANGE*	*DEFAULT*	*EXP*	*M.U.*	Notes
1	Operating passwords	**634 - PSW1**	**1**	RW	Password 1	WORD	Y	0 ... 5	*****	0	string	
2	Operating passwords	**635 - PSW2**	**2**	RW	Password 2	WORD	Y	0 ... 5	*****	0	string	
3	Operating passwords	**636 - PSW3**	**3**	RW	Password 3	WORD	Y	0 ... 5	*****	0	string	
4	Operating passwords	**637 - PSW4**	**4**	RW	Password 4	WORD	Y	0 ... 5	*****	0	string	
5	Operating passwords	**638 - PSW5**	**5**	RW	Password 5	WORD	Y	0 ... 5	*****	0	string	
6	Files Setup	**452 - USId1**	**6**	RW	User String 1	WORD	Y	0 ... 20		0	string	
7	Files Setup	**453 - USId2**	**7**	RW	User String 2	WORD	Y	0 ... 20		0	string	
13	Files Setup	**459 - rECF**	**13**	RW	REC file name	WORD	Y	0 ... 10		0	string	
14	Files Setup	**460 - HISF**	**14**	RW	HIS file name	WORD	Y	0 ... 10		0	string	
15	Files Setup	**461 - dAtF**	**15**	RW	DAT file name	WORD	Y	0 ... 10		0	string	
16	Files Setup	**462 - gLoF**	**16**	RW	GLO file name	WORD	Y	0 ... 10		0	string	
103	Configuration	**639 - tAb**	**103**	RW	TAB	WORD	Y	0 ... 32767	1	0	num	
104	Configuration	**640 - rtCE**	**104**	RW	Enable RTC	WORD	Y	0 ... 1	1	0	flag	
105	Configuration	**641 - FtyP**	**105**	RW	Gas type	WORD	Y	0 ... 15	4	0	num	
110	Configuration	**646 - SIg12**	**110**	RW	SIG 1/2 probe type	WORD	Y	**0 ... 2**	0	0	num	
112	Configuration	**648 - Pb12**	**112**	RW	PB 1/2 probe type	WORD	Y	3 ... 6	4	0	num	
113	Configuration	**649 - Pb34**	**113**	RW	PB 3/4 probe type	WORD	Y	3 ... 6	4	0	num	
115	Configuration	**651 - HSIg2**	**115**	RW	SIG2 High precision	WORD	Y	0 ... 1	1	0	flag	

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.	Notes
116	Configuration	**652 - AoS1**	**116**	RW	Select V1 or I1	WORD	Y	0 ... 1	0	0	num	
125	Configuration	**656 - CALSIg2**	**125**	RW	SIG2 calibration	WORD	Y	-1000 ... 1000	1	-2	bar	Always displayed as an absolute value Do not depend on parameter 543 - rELP
126	Configuration	**656 - CALSIg2**	**126**	RW	SIG2 calibration	WORD	Y	-1450 ... 1450	0	-1	Psi	
127	Configuration	**656 - CALSIg2**	**127**	RW	SIG2 calibration	WORD	Y	-100 ... 100	0	-1	bar	
128	Configuration	**656 - CALSIg2**	**128**	RW	SIG2 calibration	WORD	Y	-145 ... 145	0	0	Psi	
129	Configuration	**656 - CALSIg2**	**129**	RW	SIG2 calibration	WORD	Y	-100 ... 100	0	-1	°C	
130	Configuration	**656 - CALSIg2**	**130**	RW	SIG2 calibration	WORD	Y	-180 ... 180	0	-1	°F	
139	Configuration	**659 - CALPb1**	**139**	RW	PB1 calibration	WORD	Y	-100 ... 100	0	-1	°C	
140	Configuration	**659 - CALPb1**	**140**	RW	PB1 calibration	WORD	Y	-180 ... 180	0	-1	°F	
141	Configuration	**660 - CALPb2**	**141**	RW	PB2 calibration	WORD	Y	-100 ... 100	0	-1	°C	
142	Configuration	**660 - CALPb2**	**142**	RW	PB2 calibration	WORD	Y	-180 ... 180	0	-1	°F	
143	Configuration	**661 - CALPb3**	**143**	RW	PB3 calibration	WORD	Y	-100 ... 100	0	-1	°C	
144	Configuration	**661 - CALPb3**	**144**	RW	PB3 calibration	WORD	Y	-180 ... 180	0	-1	°F	
145	Configuration	**662 - CALPb4**	**145**	RW	PB4 calibration	WORD	Y	-100 ... 100	0	-1	°C	
146	Configuration	**662 - CALPb4**	**146**	RW	PB4 calibration	WORD	Y	-180 ... 180	0	-1	°F	
155	Configuration	**665 - LtSIg2**	**155**	RW	Lower threshold SIG2	WORD	Y	-100 ... 100	0	-2	bar	Always displayed as an absolute value Do not depend on parameter 543 - rELP
156	Configuration	**665 - LtSIg2**	**156**	RW	Lower threshold SIG2	WORD	Y	-145 ... 145	0	-1	Psi	
157	Configuration	**665 - LtSIg2**	**157**	RW	Lower threshold SIG2	WORD	Y	-10 ... 10	0	-1	bar	
158	Configuration	**665 - LtSIg2**	**158**	RW	Lower threshold SIG2	WORD	Y	-14 ... 14	1	0	Psi	
159	Configuration	**666 - UtSIg2**	**159**	RW	Upper threshold SIG2	WORD	Y	100 ... 1000	14	-2	bar	
160	Configuration	**666 - UtSIg2**	**160**	RW	Upper threshold SIG2	WORD	Y	145 ... 1450	1000	-1	Psi	
161	Configuration	**666 - UtSIg2**	**161**	RW	Upper threshold SIG2	WORD	Y	10 ... 1000	1045	-1	bar	
162	Configuration	**666 - UtSIg2**	**162**	RW	Upper threshold SIG2	WORD	Y	14 ... 1450	310	0	Psi	
171	Addressing	**671 - FAA**	**171**	RW	Family *address*	WORD	Y	0 ... 14	449	0	num	
172	Addressing	**672 - dEA**	**172**	RW	Controller *address*	WORD	Y	0 ... 14	0	0	num	
173	Addressing	**673 - PtStLV**	**173**	RW	Protocol selection	WORD	Y	2 ... 3	0	0	num	
174	Addressing	**674 - bdrttLV**	**174**	RW	Baud Rate	WORD	Y	0 ... 2	2	0	num	
175	Addressing	**675 - PtytLV**	**175**	RW	Parity bit	WORD	Y	0 ... 2	0	0	num	
334	QuickStart	**502 - PC1**	**513**	RW	COMP 1 power	WORD	Y	1 ... 255	1	0	num	
335	QuickStart	**503 - PC2**	**514**	RW	COMP 2 power	WORD	Y	1 ... 255	1	0	num	
336	QuickStart	**504 - PC3**	**515**	RW	COMP 3 power	WORD	Y	1 ... 255	1	0	num	
337	QuickStart	**505 - PC4**	**516**	RW	COMP 4 power	WORD	Y	1 ... 255	1	0	num	
338	QuickStart	**506 - PC5**	**517**	RW	COMP 5 power	WORD	Y	1 ... 255	1	0	num	
339	QuickStart	**507 - PC6**	**518**	RW	COMP 6 power	WORD	Y	1 ... 255	EWCM8400: N.A. EWCM8600: 1 EWCM8900:1	0	num	
340	QuickStart	**508 - PC7**	**519**	RW	COMP 7 power	WORD	Y	1 ... 255	EWCM8400: N.A. EWCM8600: 1 EWCM8900:1	0	num	

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.	Notes
341	QuickStart	**509 - PC8**	**520**	RW	COMP 8 power	WORD	Y	1 ... 255	EWCM8400: N.A. EWCM8600: N.A. EWCM8900:1	0	num	
342	QuickStart	**510 - PC9**	**521**	RW	COMP 9 power	WORD	Y	1 ... 255	EWCM8400: N.A. EWCM8600: N.A. EWCM8900:1	0	num	
343	QuickStart	**511 - PC10**	**522**	RW	COMP 10 power	WORD	Y	1 ... 255	EWCM8400: N.A. EWCM8600: N.A. EWCM8900:1	0	num	
810	QuickStart	**514 - EAAL**	**525**	RW	Abilita DO Allarmi	WORD	Y	0 ... 1	0	0	flag	
811	QuickStart	**515 - EACI**	**526**	RW	Enable DO alarms	WORD	Y	0 ... 1	0	0	flag	
812	QuickStart	**516 - EAFI**	**527**	RW	Enable COMP INV	WORD	Y	0 ... 1	0	0	flag	
814	QuickStart	**518 - EAFIE**	**529**	RW	Enable COMP INV ERR	WORD	Y	0 ... 1	0	0	flag	
348	QuickStart	**522 - CtyP**	**533**	RW	Circuit Type 1	WORD	Y	0 ... 3	0	0	num	
349	QuickStart	**523 - CPnU**	**534**	RW	No. COMP circuit 1	WORD	Y	0 ... 12	EWCM8400: 4 EWCM8600: 6 EWCM8900:9	0	num	
816	Display	**541 - LAng**	**783**	RW	Select language	WORD	Y	0 ... 1	0	0	flag	
367	Display	**542 - toUt**	**784**	RW	Exit menu time	WORD	Y	10 ... 1000	300	0	sec	
817	Display	**543 - rELP**	**785**	RW	Min suction UM	WORD	Y	0 ... 1	1	0	flag	
818	Display	**544 - AbS**	**786**	RW	Max suction UM	WORD	Y	0 ... 1	1	0	flag	
370	Display	**547 - UMCP**	**789**	RW	Suction UM	WORD	Y	**0 ... 3**	2	0	num	
819	Display	**549 - LoCK**	**791**	RW	Lock keypad	WORD	Y	0 ... 1	0	0	flag	
372	Display	**550 - HKUnL**	**792**	RW	Unlock keypad hotk	WORD	Y	0 ... 12	8	0	num	
955	Functions	**554 - drEn**	**1682**	RW	Log Data	WORD	Y	0 ... 1	0	0	flag	
956	Functions	**555 - HIEn**	**1683**	RW	Log History	WORD	Y	0 ... 1	0	0	flag	
421	Functions	**556 - ESFn**	**1684**	RW	Energy Saving Type	WORD	Y	0 ... 7	0	0	num	
426	Functions	**559 - LrCd**	**1689**	RW	Liq. return cont. delay	WORD	Y	0 ... 999	15	0	min	
427	Functions	**560 - Lron**	**1690**	RW	DC liq. return ON time	WORD	Y	0 ... 999	60	0	sec	
428	Functions	**561 - LroF**	**1691**	RW	DC liq. return OFF time	WORD	Y	0 ... 999	60	0	sec	
434	Safety measures	**565 - odo**	**1844**	RW	Output Delay at P-On	WORD	Y	0 ... 999	1	0	sec	
435	Safety measures	**566 - PAo**	**1845**	RW	Exclude Alarms POn	WORD	Y	0 ... 999	15	0	min	
436	Safety measures	**567 - tAo**	**1846**	RW	HP-LP bypass time	WORD	Y	0 ... 999	0	0	min	
437	Safety measures	**568 - Aro**	**1847**	RW	Ackn. alarm time	WORD	Y	0 ... 9999	15	0	min	
438	Safety measures	**569 - PrSAE**	**1848**	RW	Suction HP/LP Alarm	WORD	Y	0 ... 3	2	0	num	
439	Safety measures	**570 - PSAE**	**1849**	RW	Suction HP/LP Alarm	WORD	Y	0 ... 3	2	0	num	
440	Safety measures	**571 - gtSAE**	**1850**	RW	Gas Level Alarm	WORD	Y	0 ... 3	3	0	num	
441	Safety measures	**572 - gLSAE**	**1851**	RW	Gas Escape Alarm	WORD	Y	0 ... 3	1	0	num	
447	Safety measures	**578 - CSAE**	**1857**	RW	Comp. Blocked Alarm	WORD	Y	0 ... 3	2	0	num	
448	Safety measures	**579 - CInAE**	**1858**	RW	Comp. Inv. Saf. Alarm	WORD	Y	0 ... 3	2	0	num	

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.	Notes
449	Safety measures	**580 - SCAE**	**1859**	RW	Comp. Main. Alarm	WORD	Y	0 ... 3	1	0	num	
450	Safety measures	**581 - oLAE**	**1860**	RW	Oil Level Alarm	WORD	Y	0 ... 3	1	0	num	
451	Safety measures	**582 - gAAE**	**1861**	RW	General Alarm	WORD	Y	0 ... 3	2	0	num	
452	Safety measures	**583 - rtCAE**	**1862**	RW	RTC Alarm	WORD	Y	0 ... 3	1	0	num	
454	Resource allocation	**584 - H201**	**2304**	RW	Relay OUT1	WORD	Y	-93 ... 93	9	0	num	
455	Resource allocation	**585 - H202**	**2305**	RW	Relay OUT2	WORD	Y	-93 ... 93	19	0	num	
456	Resource allocation	**586 - H203**	**2306**	RW	Relay OUT3	WORD	Y	-93 ... 93	20	0	num	
457	Resource allocation	**587 - H204**	**2307**	RW	Relay OUT4	WORD	Y	-93 ... 93	21	0	num	
458	Resource allocation	**588 - H205**	**2308**	RW	Relay OUT5	WORD	Y	-93 ... 93	22	0	num	
459	Resource allocation	**589 - H206**	**2309**	RW	Relay OUT6	WORD	Y	-93 ... 93	EWCM8400: 0 EWCM8600: 23 EWCM8900:23	0	num	
460	Resource allocation	**590 - H207**	**2310**	RW	Relay OUT7	WORD	Y	-93 ... 93	EWCM8400: 0 EWCM8600: 24 EWCM8900:24	0	num	
461	Resource allocation	**591 - H208**	**2311**	RW	Relay OUT8	WORD	Y	-93 ... 93	EWCM8400: N.A. EWCM8600: 0 EWCM8900:0	0	num	
462	Resource allocation	**592 - H209**	**2312**	RW	Relay OUT9	WORD	Y	-93 ... 93	EWCM8400: N.A. EWCM8600: 0 EWCM8900:0	0	num	
463	Resource allocation	**593 - H210**	**2313**	RW	Relay OUT10	WORD	Y	-93 ... 93	EWCM8400: N.A. EWCM8600: N.A. EWCM8900:25	0	num	
464	Resource allocation	**594 - H211**	**2314**	RW	Relay OUT11	WORD	Y	-93 ... 93	EWCM8400: N.A. EWCM8600: N.A. EWCM8900:25	0	num	
465	Resource allocation	**595 - H212**	**2315**	RW	Relay OUT12	WORD	Y	-93 ... 93	EWCM8400: N.A. EWCM8600: N.A. EWCM8900:26	0	num	
466	Resource allocation	**596 - H213**	**2316**	RW	Relay OUT13	WORD	Y	-93 ... 93	EWCM8400: N.A. EWCM8600: N.A. EWCM8900:27	0	num	
473	Resource allocation	**603 - H101**	**2323**	RW	HV DIH1 digital IN	WORD	Y	-53 ... 53	39	0	num	
474	Resource allocation	**604 - H102**	**2324**	RW	HV DIH2 digital IN	WORD	Y	-53 ... 53	40	0	num	
475	Resource allocation	**605 - H103**	**2325**	RW	HV DIH3 digital IN	WORD	Y	-53 ... 53	41	0	num	
476	Resource allocation	**606 - H104**	**2326**	RW	HV DIH4 digital IN	WORD	Y	-53 ... 53	42	0	num	
477	Resource allocation	**607 - H105**	**2327**	RW	HV DIH5 digital IN	WORD	Y	-53 ... 53	EWCM8400: 27 EWCM8600: 43 EWCM8900:43	0	num	
478	Resource allocation	**608 - H106**	**2328**	RW	HV DIH6 digital IN	WORD	Y	-53 ... 53	EWCM8400: 0 EWCM8600: 44 EWCM8900:44	0	num	
479	Resource allocation	**609 - H107**	**2329**	RW	HV DIH7 digital IN	WORD	Y	-53 ... 53	EWCM8400: N.A. EWCM8600: 27	0	num	

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.	Notes
									EWCM8900:45			
480	Resource allocation	**610 - H108**	**2330**	RW	HV DIH8 digital IN	WORD	Y	-53 ... 53	EWCM8400: N.A. EWCM8600: 0 EWCM8900:46	0	num	
481	Resource allocation	**611 - H109**	**2331**	RW	HV DIH9 digital IN	WORD	Y	-53 ... 53	EWCM8400: N.A. EWCM8600: 0 EWCM8900:47	0	num	
482	Resource allocation	**612 - H110**	**2332**	RW	HV DIH10 digital IN	WORD	Y	-53 ... 53	EWCM8400: N.A. EWCM8600: 0 EWCM8900:27	0	num	
494	Resource allocation	**624 - H402**	**2344**	RW	SIG2 analogue IN	WORD	Y	0 ... 3	1	0	num	
497	Resource allocation	**627 - H405**	**2347**	RW	PB1 analogue IN	WORD	Y	-60 ... 60	4	0	num	
498	Resource allocation	**628 - H406**	**2348**	RW	PB2 analogue IN	WORD	Y	-60 ... 60	0	0	num	
499	Resource allocation	**629 - H407**	**2349**	RW	PB3 analogue IN	WORD	Y	-60 ... 60	0	0	num	
500	Resource allocation	**630 - H408**	**2350**	RW	PB4 analogue IN	WORD	Y	-60 ... 60	0	0	num	
501	Resource allocation	**631 - H501**	**2351**	RW	V1/I1 analogue OUT	WORD	Y	0 ... 3	0	0	num	
957	Compressors	**551 - Stty**	**4096**	RW	Central setpoint	WORD	Y	0 ... 1	1	0	flag	
504	Compressors	**552 - PoLI**	**4097**	RW	Activation policy	WORD	Y	0 ... 3	2	0	num	
505	Compressors	**553 - SEr**	**4098**	RW	COMP time limit	WORD	Y	0 ... 32000	32000	0	ore	
506	Compressors	**101 - CCFn**	**4099**	RW	COMP control type	WORD	Y	0 ... 2	0	0	num	
958	Compressors	**102 - ItEn**	**4100**	RW	Full control	WORD	Y	0 ... 1	0	0	flag	
507	Compressors	**103 - It**	**4101**	RW	Full time	WORD	Y	1 ... 900	600	-1	sec	
959	Compressors	**104 - PbEn**	**4102**	RW	Proportional control	WORD	Y	0 ... 1	0	0	flag	
960	Compressors	**105 - dtEn**	**4103**	RW	Derivative control	WORD	Y	0 ... 1	0	0	flag	
508	Compressors	**106 - dt**	**4104**	RW	Derivative time	WORD	Y	1 ... 900	600	-1	sec	
509	Compressors	**107 - dSS**	**4105**	RW	Dyn. Suc. set. mode	WORD	Y	0 ... 1	1	0	num	
961	Compressors	**108 - CPP**	**4106**	RW	Enable ERR-control	WORD	Y	0 ... 1	0	0	flag	
510	Compressors	**109 - PoPr**	**4107**	RW	ERR power value	WORD	Y	0 ... 100	50	0	%	
512	Compressors	**111 - PEn**	**4109**	RW	Max alarm LPr times	WORD	Y	0 ... 33	3	0	num	
513	Compressors	**112 - PEI**	**4110**	RW	Pen interval	WORD	Y	1 ... 15	15	0	min	
514	Compressors	**113 - byPS**	**4111**	RW	HPr-LPr bypass time	WORD	Y	0 ... 999	2	0	min	
515	Compressors	**114 - InLSP**	**4112**	RW	Minimum speed	WORD	Y	0 ... 100	20	0	%	
516	Compressors	**115 - InMSP**	**4113**	RW	Maximum speed	WORD	Y	0 ... 100	80	0	%	
517	Compressors	**116 - InSSP**	**4114**	RW	Saturation speed	WORD	Y	0 ... 100	90	0	%	
962	Compressors	**117 - CoIE**	**4115**	RW	Enable free INV	WORD	Y	0 ... 1	1	0	flag	
518	Compressors	**118 - PtSE**	**4116**	RW	Part. sequence	WORD	Y	0 ... 2	0	0	num	
520	Compressors	**120 - nCPC**	**4118**	RW	Select Master COMP	WORD	Y	**0...[523 – CpnU]**	0	0	num	
521	Compressors	**121 - oFon**	**4119**	RW	COMP OFF - ON time	WORD	Y	0 ... 999	5	0	min	
522	Compressors	**122 - donF**	**4120**	RW	COMP ON - OFF time	WORD	Y	0 ... 999	15	0	sec	

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.	Notes
523	Compressors	**123 - onon**	**4121**	RW	COMP ON - ON time	WORD	Y	0 ... 999	5	0	min	
524	Compressors	**124 - don**	**4122**	RW	ON steps time	WORD	Y	0 ... 999	15	0	sec	
525	Compressors	**125 - doF**	**4123**	RW	OFF steps time	WORD	Y	0 ... 999	5	0	sec	
963	Compressors	**126 - FdLy**	**4124**	RW	Enable dOn 1' Ins.	WORD	Y	0 ... 1	1	0	flag	
964	Compressors	**127 - FdLF**	**4125**	RW	Enable dOF 1' Dis.	WORD	Y	0 ... 1	1	0	flag	
526	Compressors	**128 - InPC**	**4126**	RW	% inv. variation	WORD	Y	1 ... 100	10	0	%	
527	Compressors	**129 - Inot**	**4127**	RW	Max time INV at 0%	WORD	Y	0 ... 999	999	0	min	
528	Compressors	**130 - InLt**	**4128**	RW	Time INV at min. sp.	WORD	Y	0 ... 999	0	0	sec	
529	Compressors	**131 - LSE**	**4129**	RW	Minimum setpoint	WORD	Y	-1000 ... 6000	-550	-1	°C	
530	Compressors	**132 - HSE**	**4130**	RW	Maximum setpoint	WORD	Y	-1000 ... 6000	0	-1	°C	
531	Compressors	**133 - SEt**	**4131**	RW	Suction setpoint	WORD	Y	**131 –LSE...132-HSE**	-350	-1	°C	
532	Compressors	**134 - Pbd**	**4132**	RW	Proportional band	WORD	Y	-1000 ... 6000	50	-1	°C	
533	Compressors	**135 - PbdE**	**4133**	RW	Extended prop. band	WORD	Y	-1000 ... 6000	100	-1	°C	
534	Compressors	**136 - dSPo1**	**4134**	RW	Offset 1 for dyn set	WORD	Y	-1000 ... 6000	20	-1	°C	
535	Compressors	**137 - dSPo2**	**4135**	RW	Offset 2 for dyn set	WORD	Y	-1000 ... 6000	20	-1	°C	
536	Compressors	**138 - dLAL**	**4136**	RW	LAL delta	WORD	Y	-1000 ... 6000	20	-1	°C	
537	Compressors	**139 - LAL**	**4137**	RW	Low alarm	WORD	Y	-1000 ... 6000	50	-1	°C	
538	Compressors	**140 - dHAL**	**4138**	RW	HAL delta	WORD	Y	-1000 ... 6000	20	-1	°C	
539	Compressors	**141 - HAL**	**4139**	RW	High alarm	WORD	Y	-1000 ... 6000	50	-1	°C	
540	Compressors	**142 - Cod1**	**4140**	RW	Delta 1cut-off	WORD	Y	-1000 ... 6000	20	-1	°C	
541	Compressors	**143 - Cod2**	**4141**	RW	Delta 2 cut-off	WORD	Y	-1000 ... 6000	0	-1	°C	
542	Compressors	**144 - InLPt**	**4142**	RW	INV min power limit	WORD	Y	-1000 ... 6000	-370	-1	°C	
543	Compressors	**145 - AtdS**	**4143**	RW	Amb temp dynamic set	WORD	Y	-1000 ... 6000	150	-1	°C	
544	Compressors	**146 - dAtdS**	**4144**	RW	AtdS differential	WORD	Y	-1000 ... 6000	20	-1	°C	
545	Compressors	**131 - LSE**	**4145**	RW	Minimum setpoint	WORD	Y	-1500 ... 9999	-670	-1	°F	
546	Compressors	**132 - HSE**	**4146**	RW	Maximum setpoint	WORD	Y	-1500 ... 9999	320	-1	°F	
547	Compressors	**133 - SEt**	**4147**	RW	Suction setpoint	WORD	Y	**131 –LSE...132-HSE**	-310	-1	°F	
548	Compressors	**134 - Pbd**	**4148**	RW	Proportional band	WORD	Y	-1500 ... 9999	90	-1	°F	
549	Compressors	**135 - PbdE**	**4149**	RW	Extended prop. band	WORD	Y	-1500 ... 9999	180	-1	°F	
550	Compressors	**136 - dSPo1**	**4150**	RW	Offset 1 for dyn set	WORD	Y	-1500 ... 9999	36	-1	°F	
551	Compressors	**137 - dSPo2**	**4151**	RW	Offset 2 for dyn set	WORD	Y	-1500 ... 9999	36	-1	°F	
552	Compressors	**138 - dLAL**	**4152**	RW	LAL delta	WORD	Y	-1500 ... 9999	36	-1	°F	
553	Compressors	**139 - LAL**	**4153**	RW	Low alarm	WORD	Y	-1500 ... 9999	410	-1	°F	
554	Compressors	**140 - dHAL**	**4154**	RW	HAL delta	WORD	Y	-1500 ... 9999	36	-1	°F	
555	Compressors	**141 - HAL**	**4155**	RW	High alarm	WORD	Y	-1500 ... 9999	410	-1	°F	
556	Compressors	**142 - Cod1**	**4156**	RW	Delta 1cut-off	WORD	Y	-1500 ... 9999	36	-1	°F	
557	Compressors	**143 - Cod2**	**4157**	RW	Delta 2 cut-off	WORD	Y	-1500 ... 9999	0	-1	°F	

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.	Notes
558	Compressors	**144 - InLPt**	**4158**	RW	INV min power limit	WORD	Y	-1500 ... 9999	-346	-1	°F	
559	Compressors	**145 - AtdS**	**4159**	RW	Amb temp dynamic set	WORD	Y	-1500 ... 9999	590	-1	°F	
560	Compressors	**146 - dAtdS**	**4160**	RW	AtdS differential	WORD	Y	-1500 ... 9999	36	-1	°F	
561	Compressors	**131 - LSE**	**4161**	RW	Minimum setpoint	WORD	Y	-100 ... 6800	37	-2	bar	
562	Compressors	**132 - HSE**	**4162**	RW	Maximum setpoint	WORD	Y	-100 ... 6800	460	-2	bar	
563	Compressors	**133 - SEt**	**4163**	RW	Suction setpoint	WORD	Y	**131 –LSE...132-HSE**	109	-2	bar	
564	Compressors	**134 - Pbd**	**4164**	RW	Proportional band	WORD	Y	-100 ... 6800	25	-2	bar	
565	Compressors	**135 - PbdE**	**4165**	RW	Extended prop. band	WORD	Y	-100 ... 6800	51	-2	bar	
566	Compressors	**136 - dSPo1**	**4166**	RW	Offset 1 for dyn set	WORD	Y	-100 ... 6800	10	-2	bar	
567	Compressors	**137 - dSPo2**	**4167**	RW	Offset 2 for dyn set	WORD	Y	-100 ... 6800	10	-2	bar	
568	Compressors	**138 - dLAL**	**4168**	RW	LAL delta	WORD	Y	-100 ... 6800	10	-2	bar	
569	Compressors	**139 - LAL**	**4169**	RW	Low alarm	WORD	Y	-100 ... 6800	547	-2	bar	
570	Compressors	**140 - dHAL**	**4170**	RW	HAL delta	WORD	Y	-100 ... 6800	10	-2	bar	
571	Compressors	**141 - HAL**	**4171**	RW	High alarm	WORD	Y	-100 ... 6800	247	-2	bar	
572	Compressors	**142 - Cod1**	**4172**	RW	Delta 1cut-off	WORD	Y	-100 ... 6800	10	-2	bar	
573	Compressors	**143 - Cod2**	**4173**	RW	Delta 2 cut-off	WORD	Y	-100 ... 6800	0	-2	bar	
574	Compressors	**144 - InLPt**	**4174**	RW	INV min power limit	WORD	Y	-100 ... 6800	99	-2	bar	
577	Compressors	**131 - LSE**	**4177**	RW	Minimum setpoint	WORD	Y	-145 ... 9999	53	-1	Psi	
578	Compressors	**132 - HSE**	**4178**	RW	Maximum setpoint	WORD	Y	-145 ... 9999	667	-1	Psi	
579	Compressors	**133 - SEt**	**4179**	RW	Suction setpoint	WORD	Y	**131 –LSE...132-HSE**	158	-1	Psi	
580	Compressors	**134 - Pbd**	**4180**	RW	Proportional band	WORD	Y	-145 ... 9999	36	-1	Psi	
581	Compressors	**135 - PbdE**	**4181**	RW	Extended prop. band	WORD	Y	-145 ... 9999	73	-1	Psi	
582	Compressors	**136 - dSPo1**	**4182**	RW	Offset 1 for dyn set	WORD	Y	-145 ... 9999	14	-1	Psi	
583	Compressors	**137 - dSPo2**	**4183**	RW	Offset 2 for dyn set	WORD	Y	-145 ... 9999	14	-1	Psi	
584	Compressors	**138 - dLAL**	**4184**	RW	LAL delta	WORD	Y	-145 ... 9999	14	-1	Psi	
585	Compressors	**139 - LAL**	**4185**	RW	Low alarm	WORD	Y	-145 ... 9999	793	-1	Psi	
586	Compressors	**140 - dHAL**	**4186**	RW	HAL delta	WORD	Y	-145 ... 9999	14	-1	Psi	
587	Compressors	**141 - HAL**	**4187**	RW	High alarm	WORD	Y	-145 ... 9999	793	-1	Psi	
588	Compressors	**142 - Cod1**	**4188**	RW	Delta 1cut-off	WORD	Y	-145 ... 9999	14	-1	Psi	
589	Compressors	**143 - Cod2**	**4189**	RW	Delta 2 cut-off	WORD	Y	-145 ... 9999	0	-1	Psi	
590	Compressors	**144 - InLPt**	**4190**	RW	INV min power limit	WORD	Y	-145 ... 9999	143	-1	Psi	

1.5.3 Client table

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
5		**SIG2**	**4710**	R	Analogue input SIG2	WORD	Y	-32768 ... 32767	0	-2	bar
6		**SIG2**	**4710**	R	Analogue input SIG2	WORD	Y	-32768 ... 32767	0	-1	bar

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
7		**SIG2**	**4710**	R	Analogue input SIG2	WORD	Y	-32768 ... 32767	0	-1	°C
8		**SIG2**	**4710**	R	Analogue input SIG2	WORD	Y	0 ... 1	0		flag
15		**PB1**	**4713**	R	Analogue input PB1	WORD	Y	-32768 ... 32767	0	-1	°C
16		**PB1**	**4713**	R	Analogue input PB1	WORD	Y	0 ... 1	0		flag
17		**PB2**	**4714**	R	Analogue input PB2	WORD	Y	-32768 ... 32767	0	-1	°C
18		**PB2**	**4714**	R	Analogue input PB2	WORD	Y	0 ... 1	0		flag
19		**PB3**	**4715**	R	Analogue input PB3	WORD	Y	-32768 ... 32767	0	-1	°C
20		**PB3**	**4715**	R	Analogue input PB3	WORD	Y	0 ... 1	0		flag
21		**PB4**	**4716**	R	Analogue input PB4	WORD	Y	-32768 ... 32767	0	-1	°C
22		**PB4**	**4716**	R	Analogue input PB4	WORD	Y	0 ... 1	0		flag
27		**SIG2**	**4710**	R	Analogue input SIG2	WORD	Y	-32768 ... 32767	0	-1	Psi
28		**SIG2**	**4710**	R	Analogue input SIG2	WORD	Y	-32768 ... 32767	0	0	Psi
29		**SIG2**	**4710**	R	Analogue input SIG2	WORD	Y	-32768 ... 32767	0	-1	°F
30		**SIG2**	**4710**	R	Analogue input SIG2	WORD	Y	0 ... 1	0		flag
37		**PB1**	**4713**	R	Analogue input PB1	WORD	Y	-32768 ... 32767	0	-1	°F
38		**PB1**	**4713**	R	Analogue input PB1	WORD	Y	0 ... 1	0		flag
39		**PB2**	**4714**	R	Analogue input PB2	WORD	Y	-32768 ... 32767	0	-1	°F
40		**PB2**	**4714**	R	Analogue input PB2	WORD	Y	0 ... 1	0		flag
41		**PB3**	**4715**	R	Analogue input PB3	WORD	Y	-32768 ... 32767	0	-1	°F
42		**PB3**	**4715**	R	Analogue input PB3	WORD	Y	0 ... 1	0		flag
43		**PB4**	**4716**	R	Analogue input PB4	WORD	Y	-32768 ... 32767	0	-1	°F
44		**PB4**	**4716**	R	Analogue input PB4	WORD	Y	0 ... 1	0		flag
45		**DI(L/H)1**	**33792**	R	Digital input DI(L/H)1	1 bit		0 ... 1	0		flag
46		**DI(L/H)2**	**33792,1**	R	Digital input DI(L/H)2	1 bit		0 ... 1	0		flag
47		**DI(L/H)3**	**33792,2**	R	Digital input DI(L/H)3	1 bit		0 ... 1	0		flag
48		**DI(L/H)4**	**33792,3**	R	Digital input DI(L/H)4	1 bit		0 ... 1	0		flag
49		**DI(L/H)5**	**33792,4**	R	Digital input DI(L/H)5	1 bit		0 ... 1	0		flag
50		**DI(L/H)6**	**33792,5**	R	Digital input DI(L/H)6	1 bit		0 ... 1	0		flag
51		**DI(L/H)7**	**33792,6**	R	Digital input DI(L/H)7	1 bit		0 ... 1	0		flag
52		**DI(L/H)8**	**33792,7**	R	Digital input DI(L/H)8	1 bit		0 ... 1	0		flag
53		**DI(L/H)9**	**33792,8**	R	Digital input DI(L/H)9	1 bit		0 ... 1	0		flag
54		**DI(L/H)10**	**33792,9**	R	Digital input DI(L/H)10	1 bit		0 ... 1	0		flag
65		**V1/I1**	**35072**	R	Analogue output 1	BYTE		0 ... 100	0		%
68		**OUT1**	**34816**	R	Digital output 1	1 bit		0 ... 1	0		flag
69		**OUT2**	**34816,1**	R	Digital output 2	1 bit		0 ... 1	0		flag

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
70		**OUT3**	**34816,2**	R	Digital output 3	1 bit		0 ... 1	0		flag
71		**OUT4**	**34816,3**	R	Digital output 4	1 bit		0 ... 1	0		flag
72		**OUT5**	**34816,4**	R	Digital output 5	1 bit		0 ... 1	0		flag
73		**OUT6**	**34816,5**	R	Digital output 6	1 bit		0 ... 1	0		flag
74		**OUT7**	**34816,6**	R	Digital output 7	1 bit		0 ... 1	0		flag
75		**OUT8**	**34816,7**	R	Digital output 8	1 bit		0 ... 1	0		flag
76		**OUT9**	**34816,8**	R	Digital output 9	1 bit		0 ... 1	0		flag
77		**OUT10**	**34816,9**	R	Digital output 10	1 bit		0 ... 1	0		flag
78		**OUT11**	**34816,10**	R	Digital output 11	1 bit		0 ... 1	0		flag
79		**OUT12**	**34816,11**	R	Digital output 12	1 bit		0 ... 1	0		flag
80		**OUT13**	**34816,12**	R	Digital output 13	1 bit		0 ... 1	0		flag
109		**MB_ABICONFIGCMD**	**305**	R	Enable open configuration mode confirmed	WORD		0 ... 1	0		flag
110		**MB_RQCONFIGCMD**	**306**	R	Request open configuration mode	WORD		0 ... 1	0		flag
128		**MB_PARMODIFIED_MBADDRESS**	**420**	R	Last parameter modified Modbus *address*	WORD		0 ... 65535	0		num
129		**MB_LOCK_PARMODIFIED_MBADDRESS**	**421**	R	Stop automatic update of associated parameters	WORD		0 ... 1	0		flag
130		**MB_REALTIMEDATA_SECOND**	**422**	R	Seconds	WORD		0 ... 59	0		sec
131		**MB_REALTIMEDATA_MINUTES**	**423**	R	minutes	WORD		0 ... 59	0		min
132		**MB_REALTIMEDATA_HOUR**	**424**	R	hours	WORD		0 ... 23	0		ore
133		**MB_REALTIMEDATA_DAYWEEK**	**425**	R	Day of week	WORD		0 ... 6	0		giorno
134		**MB_REALTIMEDATA_DAYMONTH**	**426**	R	Day of month	WORD		1 ... 31	0		num
135		**MB_REALTIMEDATA_MONTH**	**427**	R	Month	WORD		1 ... 12	0		mese
136		**MB_REALTIMEDATA_YEAR**	**428**	R	Year	WORD		0 ... 99	0		anno
149		**MB_TREG_DISPLAY_CONTROL**	**441**	R	Unit of measure for suction read-out	WORD		0 ... 3	0		num
151		**MB_PROG_STATUS**	**443**	R	Active programming mode	WORD		0 ... 1	0		flag

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
152		**MB_KEYLOCK_STATUS**	**444**	R	Lock keypad	WORD		0 ... 13	0		num
153		**MB_USER_INFO**	**445**	R	Application details	WORD		0 ... 65535	0		num
154		**UARTOpeReq**	**1920**	R	Request download alarm history or historic data via serial	WORD		0 ... 3	0		num
179		**FncEconomySuction1**	**4631**	R	Economy, suction section	WORD		0 ... 1	0		flag
182		**FncAUX1**	**4634**	R	AUX output 1 active	WORD		0 ... 1	0		flag
183		**FncAUX2**	**4635**	R	AUX output 2 active	WORD		0 ... 1	0		flag
184		**FncAUX3**	**4636**	R	AUX output 3 active	WORD		0 ... 1	0		flag
185		**FncAUX4**	**4637**	R	AUX output 4 active	WORD		0 ... 1	0		flag
186		**FncEnergySaving**	**4638**	R	Energy saving function	WORD		0 ... 1	0		flag
187		**FncMute**	**4639**	R	Alarm acknowledgment	WORD		0 ... 1	0		flag
188		**FncHeatRecovery**	**4640**	R	Heat recovery	WORD		0 ... 1	0		flag
189		**FncLiquidReturnOfControl1**	**4641**	R	Liquid return control, suction section	WORD		0 ... 1	0		flag
191		**FncHotGasDefrost1**	**4643**	R	Liquid return control, suction section	WORD		0 ... 1	0		flag
193		**KompPower1**	**4645**	R	Power generated by compressor 1	WORD		0 ... 100	0		num
194		**KompPower2**	**4646**	R	Power generated by compressor 2	WORD		0 ... 100	0		num
195		**KompPower3**	**4647**	R	Power generated by compressor 3	WORD		0 ... 100	0		num
196		**KompPower4**	**4648**	R	Power generated by compressor 4	WORD		0 ... 100	0		num

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
197		**KompPower5**	**4649**	R	Power generated by compressor 5	WORD		0 ... 100	0		num
198		**KompPower6**	**4650**	R	Power generated by compressor 6	WORD		0 ... 100	0		num
199		**KompPower7**	**4651**	R	Power generated by compressor 7	WORD		0 ... 100	0		num
200		**KompPower8**	**4652**	R	Power generated by compressor 8	WORD		0 ... 100	0		num
201		**KompPower9**	**4653**	R	Power generated by compressor 9	WORD		0 ... 100	0		num
202		**KompPower10**	**4654**	R	Power generated by compressor 10	WORD		0 ... 100	0		num
203		**KompPower11**	**4655**	R	Power generated by compressor 11	WORD		0 ... 100	0		num
205		**KompPowerInv1**	**4657**	R	Power generated by compressor piloted by inverter, suction section	WORD		0 ... 100	0		num
207		**KompStatus1**	**4659**	R	Compressor 1	WORD		0 ... 32767	0		flag
208		**KompStatus2**	**4660**	R	Compressor 2	WORD		0 ... 32767	0		flag
209		**KompStatus3**	**4661**	R	Compressor 3	WORD		0 ... 32767	0		flag
210		**KompStatus4**	**4662**	R	Compressor 4	WORD		0 ... 32767	0		flag
211		**KompStatus5**	**4663**	R	Compressor 5	WORD		0 ... 32767	0		flag
212		**KompStatus6**	**4664**	R	Compressor 6	WORD		0 ... 32767	0		flag
213		**KompStatus7**	**4665**	R	Compressor 7	WORD		0 ... 32767	0		flag
214		**KompStatus8**	**4666**	R	Compressor 8	WORD		0 ... 32767	0		flag
215		**KompStatus9**	**4667**	R	Compressor 9	WORD		0 ... 32767	0		flag
216		**KompStatus10**	**4668**	R	Compressor 10	WORD		0 ... 32767	0		flag
217		**KompStatus11**	**4669**	R	Compressor 11	WORD		0 ... 32767	0		flag
219		**KompStatusInv1**	**4671**	R	Compressor piloted by inverter, suction section	WORD		0 ... 32767	0		flag
221		**KompActiveNoCircuit1**	**4673**	R	Number of compressors on, suction section	WORD		0 ... 12	0		num

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
222		**KompStepNoCircuit1**	**4674**	R	Number of steps on, suction section	WORD		0 ... 72	0		num
236		**SuctionProbeCircuit1**	**4688**	R	Suction probe	WORD	Y	-32768 ... 32767	0	-2	bar
237		**SuctionProbeCircuit1**	**4688**	R	Suction probe	WORD	Y	-32768 ... 32767	0	-1	Psi/°C/°F
242		**SetPointSuctionCircuit1**	**4691**	R	Regulation setpoint, suction section	WORD	Y	-32768 ... 32767	0	-2	bar
243		**SetPointSuctionCircuit1**	**4691**	R	Regulation setpoint, suction section	WORD	Y	-32768 ... 32767	0	-1	Psi/°C/°F
254		**133 - SEt**	**4864**	R	Setpoint, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
255		**133 - SEt**	**4864**	R	Setpoint, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
256		**134 - Pbd**	**4865**	R	Proportional band, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
257		**134 - Pbd**	**4865**	R	Proportional band, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
258		**135 - PbdE**	**4866**	R	Proportional band 1, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
259		**135 - PbdE**	**4866**	R	Proportional band 1, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
260		**136 - dSPo1**	**4867**	R	Economy maximum offset 1, suction section	WORD	Y	-1500 ... 9999	0	-2	bar

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
261		**136 - dSPo1**	**4867**	R	Economy maximum offset 1, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
262		**137 - dSPo2**	**4868**	R	Economy maximum offset 2, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
263		**137 - dSPo2**	**4868**	R	Economy maximum offset 2, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
264		**138 - dLAL**	**4869**	R	Minimum alarm delta, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
265		**138 - dLAL**	**4869**	R	Minimum alarm delta, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
266		**139 - LAL**	**4870**	R	Minimum alarm threshold, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
267		**139 - LAL**	**4870**	R	Minimum alarm threshold, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
268		**140 - dHAL**	**4871**	R	Maximum alarm delta, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
269		**140 - dHAL**	**4871**	R	Maximum alarm delta, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
270		**141 - HAL**	**4872**	R	Maximum alarm threshold, suction section	WORD	Y	-1500 ... 9999	0	-2	bar

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
271		**141 - HAL**	**4872**	R	Maximum alarm threshold, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
272		**142 - Cod1**	**4873**	R	Proportional band continuous regulator hysteresis, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
273		**142 - Cod1**	**4873**	R	Proportional band continuous regulator hysteresis, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
274		**143 - Cod2**	**4874**	R	Proportional band continuous regulator delta, suction section	WORD	Y	-1500 ... 9999	0	-2	bar
275		**143 - Cod2**	**4874**	R	Proportional band continuous regulator delta, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
276		**144 - InLPt**	**4875**	R	Switch-off inverter threshold, suction section	WORD	Y	-1500 ... 9999	0	-2	bar

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
277		**144 - InLPt**	**4875**	R	Switch-off inverter threshold, suction section	WORD	Y	-1500 ... 9999	0	-1	Psi/°C/°F
278		**145 - AtdS**	**4876**	R	External temperature setpoint dynamic setpoint, suction section	WORD	Y	-1500 ... 9999	0	-1	°C/°F
279		**146 - dAtdS**	**4877**	R	External temperature delta dynamic regulation setpoint, suction section	WORD	Y	-1500 ... 9999	0	-1	°C/°F
345		**CMD_RESET_STORICO_ALLARMI**	**319**	R	Reset alarm history	WORD		0 ... 1	0		flag
347		**CMD_RESET_ALLARMI**	**321**	R	Alarm manual reset	WORD		0 ... 1	0		flag
348		**CMD_FNCECONOMYSUCTION1_TOGGLE**	**322**	R	Enable/disable economy, suction section	WORD		0 ... 1	0		flag
351		**CMD_FNCAUX1_TOGGLE**	**325**	R	On/Off Auxiliary 1	WORD		0 ... 1	0		flag
352		**CMD_FNCAUX2_TOGGLE**	**326**	R	On/Off Auxiliary 2	WORD		0 ... 1	0		flag
353		**CMD_FNCAUX3_TOGGLE**	**327**	R	On/Off Auxiliary 3	WORD		0 ... 1	0		flag
354		**CMD_FNCAUX4_TOGGLE**	**328**	R	On/Off Auxiliary 4	WORD		0 ... 1	0		flag
355		**CMD_FNCENERGYSAVING_TOGGLE**	**329**	R	Enable/disable energy saving	WORD		0 ... 1	0		flag
356		**CMD_FNCMUTE_ON**	**330**	R	Alarm silencing	WORD		0 ... 1	0		flag
357		**CMD_RESET_ORE_COMPRESSORE_1**	**331**	R	Reset compressor running time 1	WORD		0 ... 1	0		flag

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
358		**CMD_RESET_ORE_COMPRESSORE_2**	**332**	R	Reset compressor running time 2	WORD		0 ... 1	0		flag
359		**CMD_RESET_ORE_COMPRESSORE_3**	**333**	R	Reset compressor running time 3	WORD		0 ... 1	0		flag
360		**CMD_RESET_ORE_COMPRESSORE_4**	**334**	R	Reset compressor running time 4	WORD		0 ... 1	0		flag
361		**CMD_RESET_ORE_COMPRESSORE_5**	**335**	R	Reset compressor running time 5	WORD		0 ... 1	0		flag
362		**CMD_RESET_ORE_COMPRESSORE_6**	**336**	R	Reset compressor running time 6	WORD		0 ... 1	0		flag
363		**CMD_RESET_ORE_COMPRESSORE_7**	**337**	R	Reset compressor running time 7	WORD		0 ... 1	0		flag
364		**CMD_RESET_ORE_COMPRESSORE_8**	**338**	R	Reset compressor running time 8	WORD		0 ... 1	0		flag
365		**CMD_RESET_ORE_COMPRESSORE_9**	**339**	R	Reset compressor running time 9	WORD		0 ... 1	0		flag
366		**CMD_RESET_ORE_COMPRESSORE_10**	**340**	R	Reset compressor running time 10	WORD		0 ... 1	0		flag
367		**CMD_RESET_ORE_COMPRESSORE_11**	**341**	R	Reset compressor running time 11	WORD		0 ... 1	0		flag
369		**CMD_RESET_ORE_COMPRESSORE_INV_1**	**343**	R	Reset running time of compressor piloted by the inverter, suction section	WORD		0 ... 1	0		flag
380		**CMD_SELEZIONE_COMPRESSORE_1_TOGGLE**	**354**	R	Select compressor 1	WORD		0 ... 1	0		flag
381		**CMD_SELEZIONE_COMPRESSORE_2_TOGGLE**	**355**	R	Select compressor 2	WORD		0 ... 1	0		flag
382		**CMD_SELEZIONE_COMPRESSORE_3_TOGGLE**	**356**	R	Select compressor 3	WORD		0 ... 1	0		flag
383		**CMD_SELEZIONE_COMPRESSORE_4_TOGGLE**	**357**	R	Select compressor 4	WORD		0 ... 1	0		flag
384		**CMD_SELEZIONE_COMPRESSORE_5_TOGGLE**	**358**	R	Select compressor 5	WORD		0 ... 1	0		flag
385		**CMD_SELEZIONE_COMPRESSORE_6_TOGGLE**	**359**	R	Select compressor 6	WORD		0 ... 1	0		flag

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
386		**CMD_SELEZIONE_COMPRESSORE_7_TOGGLE**	**360**	R	Select compressor 7	WORD		0 ... 1	0		flag
387		**CMD_SELEZIONE_COMPRESSORE_8_TOGGLE**	**361**	R	Select compressor 8	WORD		0 ... 1	0		flag
388		**CMD_SELEZIONE_COMPRESSORE_9_TOGGLE**	**362**	R	Select compressor 9	WORD		0 ... 1	0		flag
389		**CMD_SELEZIONE_COMPRESSORE_10_TOGGLE**	**363**	R	Select compressor 10	WORD		0 ... 1	0		flag
390		**CMD_SELEZIONE_COMPRESSORE_11_TOGGLE**	**364**	R	Select compressor 11	WORD		0 ... 1	0		flag
392		**CMD_SELEZIONE_COMPRESSORE_INV_1_TOGGLE**	**366**	R	Select compressor piloted by inverter, suction section	WORD		0 ... 1	0		flag
394		**CirC1PrLSuctionA_UI**	**2048**	R	Low pressure switch, suction section	WORD		0 ... 2	0		num
395		**CirC1PrHSuctionA_UI**	**2049**	R	High pressure switch, suction section	WORD		0 ... 2	0		num
396		**CirC2PrLSuctionA_UI**	**2050**	R	Low pressure switch, suction section 2	WORD		0 ... 2	0		num
397		**CirC2PrHSuctionA_UI**	**2051**	R	High pressure switch, suction section 2	WORD		0 ... 2	0		num
398		**CirC1HSuctionA_UI**	**2052**	R	High pressure, suction section	WORD		0 ... 1	0		flag
399		**CirC1LSuctionA_UI**	**2053**	R	Low pressure, suction section	WORD		0 ... 1	0		flag
400		**CirC2HSuctionA_UI**	**2054**	R	High pressure, suction section 2	WORD		0 ... 1	0		flag
401		**CirC2LSuctionA_UI**	**2055**	R	Low pressure, suction section 2	WORD		0 ... 1	0		flag
402		**PlanRefLiqLevA_UI**	**2056**	R	Refrigerant level low	WORD		0 ... 2	0		num
403		**PlanRefLiqLeakA_UI**	**2057**	R	Refrigerant leakage	WORD		0 ... 2	0		num
427		**CirC1KompOilPDifA_UI**	**2081**	R	Oil pressure differential, suction section	WORD		0 ... 1	0		flag

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
429		**CirC1KompHPA_UI**	**2083**	R	High pressure compressor, suction section	WORD		0 ... 1	0		flag
431		**CirC1KompLPA_UI**	**2085**	R	Low pressure compressor, suction section	WORD		0 ... 1	0		flag
433		**CirC1KompTherA_UI**	**2087**	R	Compressor thermal switch, suction section	WORD		0 ... 1	0		flag
435		**KompMaintenanceA_1_UI**	**2089**	R	Compressor 1 operating hours exceeded warning	WORD		0 ... 2	0		num
436		**KompMaintenanceA_2_UI**	**2090**	R	Compressor 2 operating hours exceeded warning	WORD		0 ... 2	0		num
437		**KompMaintenanceA_3_UI**	**2091**	R	Compressor 3 operating hours exceeded warning	WORD		0 ... 2	0		num
438		**KompMaintenanceA_4_UI**	**2092**	R	Compressor 4 operating hours exceeded warning	WORD		0 ... 2	0		num
439		**KompMaintenanceA_5_UI**	**2093**	R	Compressor 5 operating hours exceeded warning	WORD		0 ... 2	0		num
440		**KompMaintenanceA_6_UI**	**2094**	R	Compressor 6 operating hours exceeded warning	WORD		0 ... 2	0		num
441		**KompMaintenanceA_7_UI**	**2095**	R	Compressor 7 operating hours exceeded warning	WORD		0 ... 2	0		num

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
442		**KompMaintenanceA_8_UI**	**2096**	R	Compressor 8 operating hours exceeded warning	WORD		0 ... 2	0		num
443		**KompMaintenanceA_9_UI**	**2097**	R	Compressor 9 operating hours exceeded warning	WORD		0 ... 2	0		num
444		**KompMaintenanceA_10_UI**	**2098**	R	Compressor 10 operating hours exceeded warning	WORD		0 ... 2	0		num
445		**KompMaintenanceA_11_UI**	**2099**	R	Compressor 11 operating hours exceeded warning	WORD		0 ... 2	0		num
447		**CirC1KompInvBkA_UI**	**2101**	R	Stop compressor piloted by inverter, suction section	WORD		0 ... 1	0		flag
449		**CirC1KompInvMaintenanceA_UI**	**2103**	R	Running time of compressor piloted by inverter has been exceeded, suction section	WORD		0 ... 2	0		num
451		**KompBkA_1_UI**	**2105**	R	Stop compressor 1	WORD		0 ... 1	0		flag
452		**KompBkA_2_UI**	**2106**	R	Stop compressor 2	WORD		0 ... 1	0		flag
453		**KompBkA_3_UI**	**2107**	R	Stop compressor 3	WORD		0 ... 1	0		flag
454		**KompBkA_4_UI**	**2108**	R	Stop compressor 4	WORD		0 ... 1	0		flag
455		**KompBkA_5_UI**	**2109**	R	Stop compressor 5	WORD		0 ... 1	0		flag
456		**KompBkA_6_UI**	**2110**	R	Stop compressor 6	WORD		0 ... 1	0		flag
457		**KompBkA_7_UI**	**2111**	R	Stop compressor 7	WORD		0 ... 1	0		flag
458		**KompBkA_8_UI**	**2112**	R	Stop compressor 8	WORD		0 ... 1	0		flag
459		**KompBkA_9_UI**	**2113**	R	Stop compressor 9	WORD		0 ... 1	0		flag
460		**KompBkA_10_UI**	**2114**	R	Stop compressor 10	WORD		0 ... 1	0		flag
461		**KompBkA_11_UI**	**2115**	R	Stop compressor 11	WORD		0 ... 1	0		flag

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
463		**CirC1KompInvErrA_UI**	**2117**	R	Inverter Error, suction section	WORD		0 ... 1	0		flag
465		**CirC1RefOilLevA_UI**	**2119**	R	Lubricant oil level low, suction section	WORD		0 ... 2	0		num
467		**PlanGenericA_UI**	**2121**	R	General alarm	WORD		0 ... 1	0		flag
469		**PlanIntTempSensErr_UI**	**2123**	R	Internal temperature probe error	WORD		0 ... 1	0		flag
470		**CirC1SuctionSensErr_UI**	**2124**	R	Suction probe error, suction section	WORD		0 ... 1	0		flag
473		**PlanExtTempSensErr_UI**	**2127**	R	External temperature probe error	WORD		0 ... 1	0		flag
474		**PlanHrTempSensErr_UI**	**2128**	R	Heat recovery temperature probe error	WORD		0 ... 1	0		flag
475		**FanUcTempSensErr_UI**	**2129**	R	Sub-cooling temperature probe error	WORD		0 ... 1	0		flag
476		**BbxOpenError_UI**	**2130**	R	Error opening logged data file	WORD		0 ... 1	0		flag
477		**BbxWriteError_UI**	**2131**	R	Error writing logged data file	WORD		0 ... 1	0		flag
478		**BbxCloseError_UI**	**2132**	R	Error closing logged data file	WORD		0 ... 1	0		flag
479		**BbxFullError_UI**	**2133**	R	Logged data memory full error	WORD		0 ... 1	0		flag
480		**PlanIOCfgErr_UI**	**2134**	R	Configuration error alarm	WORD		0 ... 1	0		flag
481		**PlanE2BiosErr_UI**	**2135**	R	External eeprom CRC error alarm	WORD		0 ... 1	0		flag
482		**PlanE2UserErr_UI**	**2136**	R	External eeprom CRC error alarm	WORD		0 ... 1	0		flag
483		**PlanRTCSupplyErr_UI**	**2137**	R	RTA battery low alarm	WORD		0 ... 1	0		flag
484		**PlanRTCAckErr_UI**	**2138**	R	RTC communication error alarm	WORD		0 ... 1	0		flag

INDEX	FOLDER	LABEL	ADDRESS	R/W	DESCRIPTION	DATA SIZE	CPL	RANGE	DEFAULT	EXP	M.U.
485		**PlanRTCValueErr_UI**	**2139**	R	Alarm RTC register value not consistent	WORD		0 ... 1	0		flag
532		**CMD_MB_RQCONFIGCMD_ON**	**306**	R	Request open configuration mode	WORD		0 ... 1	0		flag
533		**CMD_MB_RQCONFIGCMD_OFF**	**306**	R	Request exit configuration mode	WORD		0 ... 1	0		flag
534		**CMD_MB_LOCK_PARMODIFIED_MBADDRESS_ON**	**421**	R	Disable automatic update of associated parameters	WORD		0 ... 1	0		flag
535		**CMD_MB_LOCK_PARMODIFIED_MBADDRESS_OFF**	**421**	R	Automatic update of associated parameters active	WORD		0 ... 1	0		flag
536		**CMD_UARTOPEREQ_AT_1**	**1921**	R	Start downloading logged data via serial	WORD		0 ... 1	0		flag
537		**CMD_UARTOPEREQ_AT_2**	**1921**	R	Start downloading alarm history via serial	WORD		0 ... 1	0		flag
538		**CMD_UARTOPEREQ_AT_3**	**1921**	R	Cancel download via serial	WORD		0 ... 1	0		flag

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3 ANALITIC INDEX

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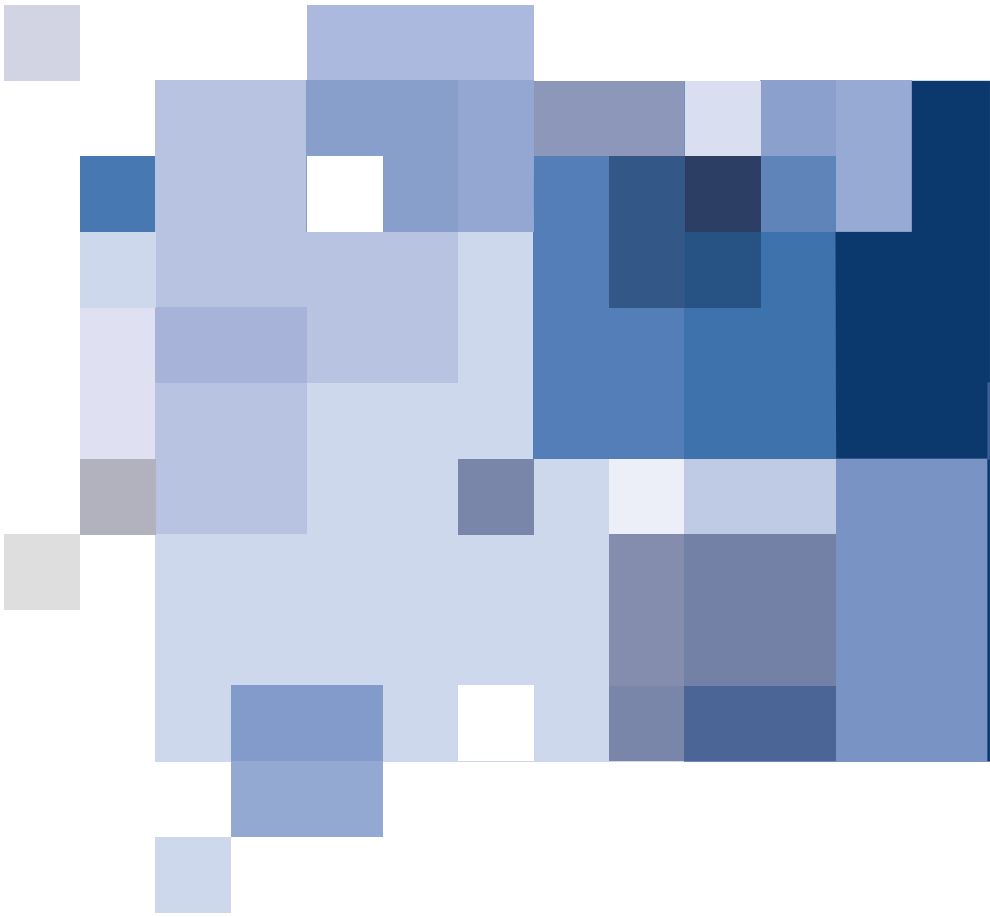

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