Programming differences

STANDARD SYSTEMS
ARM SYSTEMS

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1 MEMORY MAP DIFFERENCES

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The PLC has **1024** 16-bit internal memory locations (WORD) called DATA. These locations are intended to contain program variables running and are named from **DATA_00** to **DATA_1023**. These locations are visible and shared both by the PLC side and on the terminal side and can therefore be read and written by both.	The PLC has **8192** 16-bit internal memory locations (word) called DATA. These locations are designed to contain variables of the running program and are named **from DATA.00 to DATA.8191**. Some internal DATA of the PLC are "system DATA", or have fixed meaning; others are free and can be used freely by the application program for any purpose. The value written in the system word is interpreted as a specific parameter; the table below shows the map of the data memory of system or fixed.
16 bits and 32 bits Operations 32-bit operations : the operations on data memory are usually 16 bits, i.e. the size of the same date. However, it's possible to obtain the need for larger dimensions (long 32-bit variables). These numerical values are stored in two consecutive DATA : **lower address = most significant word** **highest address = least significant word** Operations that act between long variables are preceded by the 'L' prefix and take account of this format automatically, so for example: LMOV #1234,DATA_12 >> DATA_12 = 0 >> DATA_13 = 1234 LMOV #65537,DATA_12 >> DATA_12 = 1 >> DATA_13 = 1	***16 bits and 32 bits Operations*** The operations on the data memory are usually 16-bit, that is of the same size of the data, each data memory can therefore assume a decimal value from 0 to 65535 (2 ^ 16). However, it's possible to have the necessity for a larger dimensions (long 32-bit variables). These numerical values are stored in two consecutive DATE **lower address = least significant word** **highest address = most significant word** Operations that act between long variables are preceded by the 'L' prefix and take account of this format automatically, so for example : LMOV #1234,DATA.800 >> DATA.800 = 1234 >> DATA.801 = 0 LMOV #65537,DATA.800 >> DATA.800 = 1 >> DATA.801 = 1 Pay close attention and always keep in mind that in the case of LONG operations, the data memory specified on the software MUST BE "**EQUAL**" and is always the least significant word.
EEPROM The locations from **DATA_512** to **DATA_1023** are automatically copied to external EEPROM if written from the terminal side and are therefore not volatile, the PLC on again resume the last stored value. The control end you can save the value in EEPROM with a simple command.	***EEPROM*** The locations from **DATA.4096 to DATA.8191** are used for saving data in E^2PROM and therefore are non-volatile data. You can save data in E^2PROM in two ways : automatically through remote writing, or by software with a simple command. Remote writing means any external object that changes the value of these data (also debugging PC), or changing it with the keyboard. Writing by software instead [see external E^2PROM], involves the use of **DATA.58, DATA.59 and SYS.20** the two data must contain respectively the address of the first data to be saved, and the address of the last data to be saved while saving start setting **SYS.20,** which then will return to zero automatically. At the restart of the PLC, the data saved, resume the last stored value.

ATTENTION : EEPROMs, due to their characteristics, admit a limited number of writes (about 100,000 for each single address). Once this limit is exceeded, the EEPROM no longer works and must be replaced. It is therefore recommended not to exceed this limit, otherwise the device will malfunction.

STANDARD SYSTEMS	ARM SYSTEMS

Buffered RAM
Considering that the E²PROM has a finite number of maximum writes stated by the manufacturer (approximately 100.000) to cope with the need for frequent and numerous savings has been provided a memory area dedicated to buffered RAM. The location from **DATA_432** to **DATA_511** are automatically copied in time clock's buffered RAM every 100 msec and re-load at switch-on time with the last memorized value. The RAM is buffered with a rechargeable battery, the battery life is 1 year with full charge, if the *PLC is turned off for a longer time the data may be lost*. The buffered RAM is always enable and doesn't need any enabling.
	Buffered RAM
	Having the E²PROM a finite maximum number of scriptures specified by the manufacturer (about 100.000) to cope with the need of frequent and numerous saves was planned a dedicated area for the buffered RAM. The registers dedicated for the buffered RAM are **2048** (42 in PLC with uP STM_100) and, unlike regular registers (DATA.xx), are called NVDATA.xx! The NVDATA will be **NVDATA.00 to NVDATA.2047** (**NVDATA.41** in PLC with uP STM_100)
	
	WARNING : The NVDATA are available only inside the functions of **MOV** in the Ladder / Instructions List. They are used in the following way :
	1. To ***SAVE*** for example the value of DATA.1000 every second, you run a MOV inside the main program of DATA.1000 inside the NVDATA.00 using SYS.10 :
	`LD SYS.10`
	`MOV DATA.1000,NVDATA.00`
	
	2. To ***LOAD*** in DATA.1000, vice versa, the value saved in the NVDATA.00 must enter the MOV in reverse Initialize subroutine (called only when you start the PLC) :
	`LD SYS.01`
	`MOV NVDATA.00,DATA.1000`

RTF
NOT PRESENT
	In the buffered RAM there are also: **RTF** ! They are retentive flags that can only assume the value 0 or 1. They can be used within the PLC program like all other FLAGs, but if the PLC is switched off, RTFs maintain stored their value! They are typically used with the "**SET**" and "**RES**" instructions in ladder or in Instruction List.
	
	WARNING : RTF and NVDATA handle the same memory areas as follows :
	`From : RTF.00 = NVDATA.00 Bit 0`
	`To : RTF.07 = NVDATA.00 Bit 7`
	
	`From : RTF.08 = NVDATA.01 Bit 0`
	`To : RTF.15 = NVDATA.01 Bit 7`
	`...`
	`From : RTF.1528 = NVDATA.191 Bit 0`
	`To : RTF.1535 = NVDATA.191 Bit 7`
	
	So if, for example, RTF.00 is set, NVDATA.00 will assume the value 1! Also the reverse operation is true, e.g. if NVDATA.01 assumes value 1, RTF.08 is automatically set!

Volatile Memory All word from **DATA_00** to **DATA_431** are volatile.	**Volatile Memory** All word from **DATA.00** to **DATA.4095** are volatile.

WARNING

In **ARM SYSTEMS**, the words from DATA.1000 onwards are usually used to perform calculations and insert values into the application program. It is necessary to move all the **DATA MEMORIES** used in the volatile memory of the **STANDARD SYSTEMS** starting from **DATA.1000** onwards in the **ARM SYSTEMS**.

The **DATA MEMORIES** with a predetermined function and the **SYS** have different configurations in the 2 operating systems. For each **DATA** (with a predetermined function) and for each **SYS** it is necessary to search for the CORRESPONDING operand, comparing the DATA and SYS tables of the STANDARD SYSTEMS with the DATA and SYS tables of the ARM SYSTEMS.
ALL THE TABLES ARE SHOWN BELOW :

2 DATA MEMORY - STANDARD SYSTEMS

DATA_00	Current page number
DATA_01	Word of commands exchange between operator panel/PLC : - Bit 0 : activate by PLC for signalling, but not show, the alarms - Bit 1 : activate by PLC for showing directly the alarms - Bit 2 : activate by Operator Panel in display alarm mode - Bit 3 : activate by Operator Panel in variables input mode - Bit 8 : activate by PLC, carry out the Pipeline transfer from COM 0 to COM 1 - Bit 9 : activate by PLC, carry out the Pipeline transfer from COM 1 to COM 0 - Bit 10 : printing of the current page (only for operator panels with two serial ports and PRINTER protocol) - Bit 11 : enable reading/writing variables - Bit 12 : activate by PLC for reading command of a data memory on COM_1 (only VT with two serial ports) - Bit 13 : activate by PLC for writing command of a data memory on COM_1 (only VT with two serial ports) - Bit 14 : activate by PLC for read a recipe - Bit 15 : activate by PLC for write a recipe
DATA_02/03	Word of activation panel leds. (F_1 = DATA_02 - Bit 0 ...)
DATA_04/05	Word of activation blink of panel leds (F_1 = DATA_04 - Bit 0 ...)
DATA_06	Word alarm activation ALL_015..ALL_000 NB: ALL_0; ALL_1; ALL_2; ALL_3 are dedicated to communication errors
...	
DATA_21	Word alarm activation ALL_240..ALL_255
DATA_22	Block Number / Start Eeprom
DATA_23	Block Start / End EEprom
DATA_24	Block Dimension
DATA_25	Word press buttons : - Bit 0 : ENTER - Bit 1 : CLEAR - Bit 2 : UP - Bit 3 : DOWN - Bit 4 : Left - Bit 5 = RIGHT - Bit 6 = ALARM - Bit 7 = INFO - Bit 8 = PRG - Bit 9 = KER
DATA_26	Word press buttons (F_1 = DATA_26 - Bit 0 ...)
DATA_27	Word press buttons (F_17 = DATA_26 - Bit 0 ...)
DATA_28	Word press buttons (0...9)
DATA_29	Last modify variable address
DATA_30	Real Time Clock current date/hour
DATA_31	Real Time Clock current date/hour
DATA_32	Real Time Clock current date/hour
DATA_33	Data exchange for **COM_0** reading : external PLC address
DATA_34	Data exchange for **COM_0** reading : memory to read address
DATA_35	Data exchange for **COM_0** reading : number of data memory to read
DATA_36	Data exchange for **COM_0** reading : read data (single read)

DATA_37	Data exchange for **COM_0** reading : read data block pointer (multi read)
DATA_38	Data exchange for **COM_0** reading : memory to write address
DATA_39	Data exchange for **COM_0** reading : data to write (only single write)
DATA_40	Data exchange for **COM_1** reading : external PLC address
DATA_41	Data exchange for **COM_1** reading : memory to read address
DATA_42	Data exchange for **COM_1** reading : number of data memory to read
DATA_43	Data exchange for **COM_1** reading : read data (single read)
DATA_44	Data exchange for **COM_1** reading : read data block pointer (multi read)
DATA_45	Data exchange for **COM_1** reading : memory to write address
DATA_46	Data exchange for **COM_1** reading : data to write (only single write)
DATA_47	Data exchange for **COM_2** reading : external PLC address
DATA_48	Data exchange for **COM_2** reading : memory to read address
DATA_49	Data exchange for **COM_2** reading : number of data memory to read
DATA_50	Data exchange for **COM_2** reading : read data (single read)
DATA_51	Data exchange for **COM_2** reading : read data block pointer (multi read)
DATA_52	Data exchange for **COM_2** reading : memory to write address
DATA_53	Data exchange for **COM_2** reading : data to write (only single write)
DATA_54	Field strength value of the GSM modem signal [00..99]
DATA_55	Seconds of the Real Time Clock (only if SYS_18 and SYS_12 are active)
...	...
DATA_60	Fast counter for generation of electronic cams
DATA_61	Slow counter for generation of electronic cams
DATA_64	Fast counter at 1 millisecond n. 0 (enabled from SYS_64)
....	...
DATA_71	Fast counter at 1 millisecond n. 7 (enabled from SYS_71)
...	...
DATA_80	Activation motor for PM 100. If DATA_80 = 16383 [dec] motor ON, if DATA_80 = 0 motor OFF
DATA_81	Duty Cycle out PWM 0 - 14 bit [0000..16383]. If DATA_81 = 0 = D.C 0% ; if DATA_80 = 16383 = D.C 100%
DATA_930...DATA_944	Area code from which it received the SMS (phone number of the SMS sender)
DATA_945...DATA_959	Area code for sending SMS (telephone number to send SMS)
DATA_958	Derivative coefficient PID motor controller channel 0 (cc and ca)
DATA_959	Integral coefficient PID motor controller channel 0(cc and ca)
DATA_960	Acceleration PID motor controller channel 0 (cc and ca)
DATA_961	Maximum speed PID motor controller channel 0 (cc and ca)
DATA_962 / 963	Bandwidth PID motor controller channel 0 (cc and ca)
DATA_964	Number of pulses of delay at the stop of the function step_offset Step Motor Control 1
DATA_965	Number pulse deceleration ramp Step Motor Control 1
DATA_966	Number pulse acceleration ramp Step Motor Control 1
DATA_967	Maximum pulse frequency Step Motor Control 1
DATA_968 / 969	Target number of steps Step Motor Control 1
DATA_970 / 971	Current number of steps Step Motor Control 1

DATA_974	D/A converter output value chan 2 [0..255] for MX_44
DATA_975	D/A converter output value chan 3 [0..255] for MX_44
DATA_976	Value reckoned from PID chan 0 [0..255]
DATA_977	Value reckoned from PID chan 1 [0..255]
DATA_978	PWM Base Time generator chan 0
DATA_979	PWM Duty Cycle generator chan 0
DATA_980	PWM Base Time generator chan 1
DATA_981	PWM Duty Cycle generator chan 1
DATA_982	Preset value 0 electronic cams generator
DATA_983	Preset value 1 electronic cams generator
DATA_984	Number of delay pulses to stop the step_offset function step motor control
DATA_985	Impulse number develop ramp step motor control
DATA_986	Impulse number envelop ramp step motor control
DATA_987	Impulse Maximum Frequency step motor control
DATA_988 / 989	Steps target number step motor control
DATA_990 / 991	Current step number step motor control
DATA_992 / 993	Preset Encoder 0
DATA_994 / 995	Current value Encoder 0
DATA_996 / 997	Preset Encoder 1
DATA_998 / 999	Current value Encoder 1
DATA_1004	Alarm threshold PID regulator channel 0
DATA_1005	Alarm threshold PID regulator channel 1
DATA_1006	Derivative time PID regulator channel 0
DATA_1007	Derivative time PID regulator channel 1
DATA_1008	Integral time PID regulator channel 0
DATA_1009	Integral time PID regulator channel 1
DATA_1010	Regulation band PID regulator channel 0
DATA_1011	Regulation band PID regulator channel 1
DATA_1012	Cycle time PID regulator channel 0
DATA_1013	Cycle time PID regulator channel 1
DATA_1014	Set Point temperature PID regulator channel 0
DATA_1015	Set Point temperature PID regulator channel 1
DATA_1016	Temperature PID regulator channel 0
DATA_1017	Temperature PID regulator channel 1
DATA_1018	Output value D/A converter channel 0 [0...255]
DATA_1019	Output value D/A converter channel 1 [0...255]
DATA_1020	Analogic reading value 10 bits channel 0 [0..1023]
DATA_1021	Analogic reading value 10 bits channel 1 [0..1023]
DATA_1022	Analogic reading value 10 bits channel 2 [0..1023]
DATA_1023	Analogic reading value 10 bits channel 3 [0..1023]

...	...
10000	Current value inputs INP_15..INP_00
11000	Current value outputs OUT_15..OUT_00
12000	Current value flags FLAG_15..FLAG_00
...	...
12015	Current value flags FLAG_255..FLAG_240
13000	Current value TIMER_00
...	...
13031	Current value TIMER_31
14000	Current value COUNTER_00
...	...
14031	Current value COUNTER_31
...	**...**
DATA_20000 ... DATA_20127	**COM_0 receiving** buffer
DATA_21000 ... DATA_21127	**COM_0 transmission** buffer
DATA_22000 ... DATA_22127	**COM_0** receiving buffer
DATA_23000 ... DATA_23127	**COM_0 transmission** buffer
DATA present in only GTP_128 and TSP_128 models	
DATA_2004	Alarm threshold PID regulator channel 2
DATA_2005	Alarm threshold PID regulator channel 3
DATA_2006	Derivative time PID regulator channel 2
DATA_2007	Derivative time PID regulator channel 3
DATA_2008	Integral time PID regulator channel 2
DATA_2009	Integral time PID regulator channel 3
DATA_2010	Regulation band PID regulator channel 2
DATA_2011	Regulation band PID regulator channel 3
DATA_2012	Cycle time PID regulator channel 2
DATA_2013	Cycle time PID regulator channel 3
DATA_2014	Set Point temperature PID regulator channel 2
DATA_2015	Set Point temperature PID regulator channel 3
DATA_2016	Temperature PID regulator channel 2
DATA_2017	Temperature PID regulator channel 3

3 DATA MEMORY - ARM SYSTEMS

<table>
<tr><td>DATA.00</td><td>The current page number. This date is for both reading and writing, and can be read to know which page is displaying the PLC and can be written to move to another page.</td></tr>
<tr><td>DATA.01</td><td>Command data. Some bits of this data have a particular meaning according to the table :
<u>Bit 0 = signal but not display the alarms</u>
If activated and if there is at least one BIT ALARM active, the PLC issues a repeated acoustic signal, the LED function (if present) are flashing and the red alarm LED lights up.
Pressing the ALR button (or the bell for touch screen) you enter in the alarm display pages!
<u>Bit 1 = Immediate display of the alarms</u>
If you activated and if there is at least one BIT ALARM active, immediately enters the alarm display page.
<u>Bit 2 = Mode Alarm Display</u>
It is automatically activated when you enter the alarm display pages. The PLC displays the first alarm found, the next will be displayed after pressing the up arrow or down arrow. If you have programmed a scroll alarm time in the Project Options, the PLC will automatically scroll the active alarms according to the programmed time. If the operator presses the CLEAR button while displaying the alarm, is reset the bit (from DATA.08 to DATA.23) corresponding to the alarm displayed at that time!
<u>Bit 3 = Active during the "EDITOR VARIABLE" mode</u>
When you enter the "EDITOR VARIABLE" mode by pressing the ENTER key (or the same variable in the touch screen) to edit a new value, this bit is set to 1 and returns to 0 when the new value is confirmed with ENTER or cancel the entry with CLEAR.</td></tr>
<tr><td>DATA.02</td><td>Words activation LED of the panel [A]</td></tr>
<tr><td>DATA.03</td><td>Words activation LED of the pane [B]</td></tr>
<tr><td>DATA.04</td><td>Word pressed Keys [A]</td></tr>
<tr><td>DATA.05</td><td>Word pressed Keys [B]</td></tr>
<tr><td>DATA.06</td><td>Word pressed Keys [C]</td></tr>
<tr><td>DATA.07

<u>DEDICATED</u>

  </td><td>Word INTERNAL Alarms.
<u>THIS ALARM WORD is TOTALLY DEDICATED TO COMMUNICATION ERRORS OR SYSTEM ALARMS (DON'T USE IT)</u>
<table>
<tr><td>Bit 15</td><td>Bit 14</td><td>Bit 13</td><td>Bit 12</td><td>Bit 11</td><td>Bit 10</td><td>Bit 9</td><td>Bit 8</td><td>Bit 7</td><td>Bit 6</td><td>Bit 5</td><td>Bit 4</td><td>Bit 3</td><td>Bit 2</td><td>Bit 1</td><td>Bit 0</td></tr>
<tr><td>ALR 15</td><td>ALR 14</td><td>ALR 13</td><td>ALR 12</td><td>ALR 11</td><td>ALR 10</td><td>ALR 9</td><td>ALR 8</td><td>ALR 7</td><td>ALR 6</td><td>ALR 5</td><td>ALR 4</td><td>ALR 3</td><td>ALR COM 2</td><td>ALR COM 1</td><td>ALR COM 0</td></tr>
</table></td></tr>
<tr><td>DATA.08</td><td>From Alarm 000 to Alarm 015. For each bit is associated the respective alarm page!</td></tr>
<tr><td>DATA.09</td><td>From Alarm 016 to Alarm 031. For each bit is associated the respective alarm page!</td></tr>
<tr><td>DATA.10</td><td>From Alarm 032 to Alarm 047. For each bit is associated the respective alarm page!</td></tr>
<tr><td>DATA.11</td><td>From Alarm 048 to Alarm 063. For each bit is associated the respective alarm page!</td></tr>
<tr><td>DATA.12</td><td>From Alarm 064 to Alarm 079. For each bit is associated the respective alarm page!</td></tr>
<tr><td>DATA.13</td><td>From Alarm 080 to Alarm 095. For each bit is associated the respective alarm page!</td></tr>
<tr><td>DATA.14</td><td>From Alarm 096 to Alarm 111. For each bit is associated the respective alarm page!</td></tr>
<tr><td>DATA.15</td><td>From Alarm 112 to Alarm 127. For each bit is associated the respective alarm page!</td></tr>
</table>

DATA.16	From Alarm 128 to Alarm 143. For each bit is associated the respective alarm page!	
DATA.17	From Alarm 144 to Alarm 159. For each bit is associated the respective alarm page!	
DATA.18	From Alarm 160 to Alarm 175. For each bit is associated the respective alarm page!	
DATA.19	From Alarm 176 to Alarm 191. For each bit is associated the respective alarm page!	
DATA.20	From Alarm 192 to Alarm 207. For each bit is associated the respective alarm page!	
DATA.21	From Alarm 208 to Alarm 223. For each bit is associated the respective alarm page!	
DATA.22	From Alarm 224 to Alarm 239. For each bit is associated the respective alarm page!	
DATA.23	From Alarm 240 to Alarm 255. For each bit is associated the respective alarm page!	
DATA.24	Address of the last modified variable.	
DATA.25	External variables with attribute "Nothing" – Serial COM Port on which you can read/write the variable	
DATA.26	External variables with attribute "Nothing" - Number of the reading variable	
DATA.27	External variables with attribute "Nothing" - Number of the writing variable	
DATA.28	External variables with attribute "Nothing" - Value to write L	
DATA.29	External variables with attribute "Nothing" - Value to write H	
DATA.30	Program Execution Time (usec * 10). Example : Value 150 = 1.5 msec	
DATA.31	Day of the month (clock calendar)	
DATA.32	Day of the week (clock calendar)	
DATA.33	Month (clock calendar)	
DATA.34	Year (clock calendar)	
DATA.35	Hour (clock calendar)	
DATA.36	Minute (clock calendar)	
DATA.37	Seconds (clock calendar)	
DATA.38	Days elapsed since the beginning of the year	
DATA.39	Minutes elapsed since the beginning of the year	
DATA.40	Astronomical sunrise time	
DATA.41	Astronomical sunset time	
DATA.42	Civil sunrise time	
DATA.43	Civil sunset time	

DATA.44	Time Band	
DATA.45	Latitude (degrees)	
DATA.46	Latitude (minutes)	
DATA.47	Latitude (seconds)	
DATA.48	Longitude (degrees)	
DATA.49	Longitude (minutes)	
DATA.50	Longitude (seconds)	
DATA.51	Altitude	
DATA.52	Sun Tilt (degrees)	
DATA.53	Solar azimuth angle (degrees)	
DATA.54	Selected language (0 = First language of the project)	
DATA.55	Contrast (PLC with graphical display)	
DATA.56	Backlight time	
DATA.57	Backlight level	
DATA.58	First DATA to save (save in EEPROM) / Recipe Number	
DATA.59	Last DATA to save (save in EEPROM) / DATA recipe starts	
DATA.60	Recipe Number	
DATA.61	First Date memory of the recipe (specify only the number of DATA)	
DATA.62	Recipe size (number of DATA)	
DATA.63	x	
DATA.64	KNP_STATUS 0	
DATA.65	KNP_STATUS 1	
DATA.66	Enabling Nodes COM 0 L : Each BIT corresponds to a node [0 = Disabled; 1 = Enabled]	
DATA.67	Enabling Nodes COM 0 H : Each BIT corresponds to a node [0 = Disabled; 1 = Enabled]	
>>>	>>>	
DATA.76	Enabling Nodes COM 5 L : Each BIT corresponds to a node [0 = Disabled; 1 = Enabled]	
DATA.77	Enabling Nodes COM 5 H : Each BIT corresponds to a node [0 = Disabled; 1 = Enabled]	
DATA.78	Key Code	

DATA.79	Alarm History Command
DATA.80	Encoders Simulator Division
DATA.81	Encoders Simulator Units
DATA.82	“USER_INT” TIMER (msec) : time between two “user_int”
DATA.83	Var. Ext. Block : COM PORT to use
DATA.84	Var. Ext. Block : NODE Address
DATA.85	Var. Ext. Block : block transfer DATA source
DATA.86	Var. Ext. Block : block transfer DATA destination
DATA.87	Var. Ext. Block : block (number of variables) TO READ
DATA.88	Var. Ext. Block : block (number of variables) TO WRITE
DATA.89	Version of Operating System
DATA.90	Node Address
DATA.91	Print : Serial COM Port (COM_0 = 3, COM_1 = 4 ...)
DATA.92	Print : Initial Page
DATA.93	Print : Number of Pages to print
DATA.96	COM_0 Node Error 
>>>	>>> 
DATA.101	COM_5 Node Error 
DATA.102	FTP Result
DATA.104	FREE Protocol : Number of characters received. COM_0
>>>	>>>
DATA.109	FREE Protocol : Number of characters received. COM_5
DATA.110	TCP INPUTS
DATA.111	TCP OUTPUTS
DATA.112	Fast Timer 1 millisecond n. 0 (enabled by SYS.112)
>>>	>>>
DATA.119	Fast Timer 1 millisecond n. 0 (enabled by SYS.119)
DATA.120	GPRS : Command

DATA.121	GPRS : Start	
DATA.122	GPRS : Number	
DATA.123	Script Version / Operation in Progress	
DATA.124	IP Address 0 [000.000.000.000]	
DATA.125	IP Address 1 [000.000.000.000]	
DATA.126	IP Address 2 [000.000.000.000]	
DATA.127	IP Address 3 [000.000.000.000]	
DATA.128	Subnet Mask 0 [000.000.000.000]	**NOT USED**
DATA.129	Subnet Mask 1 [000.000.000.000]	**NOT USED**
DATA.130	Subnet Mask 2 [000.000.000.000]	**NOT USED**
DATA.131	Subnet Mask 3 [000.000.000.000]	**NOT USED**
DATA.132	DNS Address 0 [000.000.000.000]	**NOT USED**
DATA.133	DNS Address 1 [000.000.000.000]	**NOT USED**
DATA.134	DNS Address 2 [000.000.000.000]	**NOT USED**
DATA.135	DNS Address 3 [000.000.000.000]	**NOT USED**
DATA.136	Gateway 0 [000.000.000.000]	
DATA.137	Gateway 1 [000.000.000.000]	
DATA.138	Gateway 2 [000.000.000.000]	
DATA.139	Gateway 3 [000.000.000.000]	
DATA.140	SMTP Address 0 [000.000.000.000]	
DATA.141	SMTP Address 1 [000.000.000.000]	
DATA.142	SMTP Address 2 [000.000.000.000]	
DATA.143	SMTP Address 3 [000.000.000.000]	
DATA.144	SMTP Port (default = 25)	
DATA.145	HTTPD Port (default = 80)	
DATA.146	MAC Address 0 - READ ONLY [000.000.000.000.000.000]	
DATA.147	MAC Address 1 - READ ONLY [000.000.000.000.000.000]	
DATA.148	MAC Address 2 - READ ONLY [000.000.000.000.000.000]	

DATA.149	MAC Address 3 - READ ONLY [000.000.000.000.000.000]	
DATA.150	MAC Address 4 - READ ONLY [000.000.000.000.000.000]	
DATA.151	MAC Address 5 - READ ONLY [000.000.000.000.000.000]	
DATA.160	Send email	
DATA.161	Result send email	
DATA.162	LOG Status : Bit 15..8 = Limit reached - Bit 7..0 = Log Enabled	
DATA.163	If different from 0 FORCE THE LOG WRITING x (1...8)	
DATA.164	Export LOG x (1 ... 8) to a USB stick	
DATA.165	Send LOG x (1 ... 8) as an attachment to an email	
DATA.166	Delete the LOG x (1..8) Only for the Logs in EEPROM / For TOTAL Cancellation write 65535-0xFFFF hex	
DATA.167	LOG x (1...8) to read	
DATA.168	RECORD number to be read within LOG X (1 ... 8) indicated on DATA.167 If different from 0 FORCE THE LOG READING x (DATA.167) - RECORD Y (DATA.168)	
DATA.169	Starting DATA of the RECORD destination where the values read using the DATA.167 and the DATA.168	
DATA.170	Last RECORD recovered	
DATA.173	Special Functions : Command	
DATA.174	Special Functions : INPUT 1 L	
DATA.175	Special Functions : INPUT 1 H	
DATA.176	Special Functions : INPUT 2 L	
DATA.177	Special Functions : INPUT 2 H	
DATA.178	Special Functions : OUTPUT L	
DATA.179	Special Functions : OUTPUT H	
DATA.180	Week Program N° 00 : Days of the week	
DATA.181	Week Program N° 00 : Hour ON	
DATA.182	Week Program N° 00 : Hour OFF	
...	...	
DATA.369	Week Program N° 63 : Days of the week	
DATA.370	Week Program N° 63 : Hour ON	
DATA.371	Week Program N° 63 : Hour OFF	

DATA.372	Log 0 : START	
DATA.373	Log 0 : STOP	
DATA.374	Log 0 : TIME	
DATA.375	Log 0 : DIMENSION	
...	...	
DATA.400	Log 7 : START	
DATA.401	Log 7 : STOP	
DATA.402	Log 7 : TIME	
DATA.403	Log 7 : DIMENSION	
DATA.404	Cold Junction Temperature	
DATA.405	Cold Junction Temperature - *Engineering Value*	
DATA.406	Cold Junction Temperature - *Filtered Value*	
DATA.407	Cold Junction Temperature - *Immediate Value*	
DATA.408	Analog Input Channel 0 - *INSTANT VALUE* [bit]	
...	...	
DATA.415	Analog Input Channel 7 - *INSTANT VALUE* [bit]	
DATA.416	Analog Input Channel 0 – *FILTERED VALUE* [bit]	
...	...	
DATA.423	Analog Input Channel 7- *FILTERED VALUE* [bit]	
DATA.424	Analog Input Channel 0 – *Temperature* [degrees]	
...	...	
DATA.431	Analog Input Channel 7 – *Temperature* [degrees]	
DATA.432	**PID : Channel 0 - Input** : If you also enable the Temperature SYS [SYS.121], the value of temperatures in degrees is automatically copied to this DATA	
DATA.433	**PID : Channel 0 - Set Point** : Temperature set point in degrees	
DATA.434	**PID : Channel 0 - Cycle Time Regulation :** Indicates how often perform the regulation [1/10 sec.]	
DATA.435	**PID : Channel 0 - Regulation Band :** Band within which the PID regulation is executed	
DATA.436	**PID : Channel 0 - Integral Term :** Integral term used in calculations during the PID regulation	
DATA.437	**PID : Channel 0 - Derivative Term :** Derivative term used in calculations during the PID regulation	

DATA.438	**PID : Channel 0 - Dead Band :** Band within which PID Regulation is NOT executed	
DATA.439	**PID : Channel 0 - Alarm :** Degree value to be added to the SET POINT. Upon reaching this temperature rises the Alarm SYS [SYS.125]	
DATA.440	**PID : Channel 0 - PWM :** Cycle Time of the PWM actuation. It may be different from the cycle time of the PID Regulation [1/10 sec.]	
DATA.441	**PID : Channel 0 - Min Actuation Value :** MIN Value of the actuation; never drops below this value	
DATA.442	**PID : Channel 0 - Max Actuation Value :** MAX Value of the actuation; will not rise above this value ever	
DATA.443	**PID : Channel 0 - Actuation :** Actuation value from 0 to 4095 to be copied in an eventual DAC output	
DATA.444	**PID : Channel 0 - Actuation % :** Percentage value (0 … 100 %) of the actuation	
...	...	
DATA.544	**PID : Channel 7 - Input** : If you also enable the Temperature SYS [SYS.177], the value of temperatures in degrees is automatically copied to this DATA	
DATA.545	**PID : Channel 7 - Set Point** : Temperature set point in degrees	
DATA.546	**PID : Channel 7 - Cycle Time Regulation :** Indicates how often perform the regulation [1/10 sec.]	
DATA.547	**PID : Channel 7 - Regulation Band :** Band within which the PID regulation is executed	
DATA.548	**PID : Channel 7 - Integral Term :** Integral term used in calculations during the PID regulation	
DATA.549	**PID : Channel 7 - Derivative Term :** Derivative term used in calculations during the PID regulation	
DATA.550	**PID : Channel 7 - Dead Band :** Band within which PID Regulation is NOT executed	
DATA.551	**PID : Channel 7 - Alarm :** Degree value to be added to the SET POINT. Upon reaching this temperature rises the Alarm SYS [SYS.181]	
DATA.552	**PID : Channel 7 - PWM :** Cycle Time of the PWM actuation. It may be different from the cycle time of the Regulation PID [1/10 sec.]	
DATA.553	**PID : Channel 7 - Min Actuation Value :** MIN Value of the actuation; never drops below this value	
DATA.554	**PID : Channel 7 - Max Actuation Value :** MAX Value of the actuation; will not rise above this value ever	
DATA.555	**PID : Channel 7 - Actuation :** Actuation value from 0 to 4095 to be copied in an eventual DAC output	
DATA.556	**PID : Channel 7 - Actuation % :** Percentage value (0 … 100 %) of the actuation	
DATA.560	Ramp 0 : START	
DATA.561	Ramp 0 : STOP	
DATA.562	Ramp 0 : TIME	
DATA.563	Ramp 0 : BASE	
DATA.564	Ramp 0 : VALUE	
DATA.565	Ramp 0 : TIMER	
...	...	

DATA.602	Ramp 7 : START
DATA.603	Ramp 7 : STOP
DATA.604	Ramp 7 : TIME
DATA.605	Ramp 7 : BASE
DATA.606	Ramp 7 : VALUE
DATA.607	Ramp 7 : TIMER
DATA.608	DAC 0 Value
...	...
DATA.615	DAC 7 Value
DATA.616	PWM 0 Frequency [Hz]
DATA.617	PWM 0 Duty Cycle [Value from 0 to 1000 : that is from 0 to 100.0 %]
...	...
DATA.630	PWM 7 Frequency [Hz]
DATA.631	PWM 7 Duty Cycle [Value from 0 to 1000 : that is from 0 to 100.0 %]
DATA.632	Encoder 0 Value L
DATA.633	Encoder 0 Value H
...	...
DATA.646	Encoder Value 7 L
DATA.647	Encoder Value 7 H
DATA.648	PRESET Value 0 L
DATA.649	PRESET Value 0 H
...	...
DATA.662	PRESET Value 7 L
DATA.663	PRESET Value 7 L
DATA.664	FTP Start : Initial DATE to send
DATA.665	FTP Number: number of DATA to send
DATA.666	ILOG STATUS
DATA.667	ILOG REINIT

...	...	
DATA.704	STEP 0 : Value L	
DATA.705	STEP 0 : Value H	
DATA.706	STEP 0 : Target L	
DATA.707	STEP 0 : Target H	
DATA.708	STEP 0 : Max Frequency	
DATA.709	STEP 0 : Actual Frequency	
DATA.710	STEP 0 : Up Ramp	
DATA.711	STEP 0 : Down Ramp	
DATA.712	STEP 0 : Value Ramp - READ ONLY	
...	...	
DATA.734	STEP 3 : Value L	
DATA.735	STEP 3 : Value H	
DATA.736	STEP 3 : Target L	
DATA.737	STEP 3 : Target H	
DATA.738	STEP 3 : Max Frequency	
DATA.739	STEP 3 : Actual Frequency	
DATA.740	STEP 3 : Up Ramp	
DATA.741	STEP 3 : Down Ramp	
DATA.742	STEP 3 : Value Ramp - READ ONLY	
DATA.780	PWM MAX VEL	
DATA.781	PWM SPEED	
DATA.782	PWM ACC	
DATA.783	PWM MAX CURR	
DATA.784	PWM_CURR	
DATA.786	USB Command	
DATA.787	USB Record Fields Number	
DATA.788	USB Record Start Address	

DATA.789	USB Record Number	
DATA.790	USB Start [DATA Memory]	
DATA.791	USB Stop [DATA Memory]	
DATA.792	File Name 0	
...	...	
DATA.797	File Name 5	
DATA.846	GSM MO.FIELD	
DATA.847	GSM TX DATA	
DATA.848	GSM TEL NUM	
DATA.858	GSM SAVE NUM	
DATA.880	CAMS Value	
DATA.882	CAMS OUT L (Bit 0 = CAM_00 ... Bit 15 = CAM_15)	
DATA.883	CAMS OUT H (Bit 0 = CAM_16 ... Bit 15 = CAM_31)	
DATA.884	CAMS Time (msec)	
DATA.885	CAMS Max value (Limit in msec)	
DATA.888	CAM 00 Start	
DATA.889	CAM 00 Stop	
...	...	
DATA.950	CAM 31 Start	
DATA.951	CAM 31 Stop	

Legend	
Comment	**Icon**
DATA saved in E²PROM	
Read Only DATA	

4 SYS - STANDARD SYSTEMS

Each system flag is written as : "**SYS_nn**". The SYS are the individual bits (0 or 1) and can be substantially of two types :

- SYS used by the operating system to signal the state of a resource (for example, there are SYS active every second, every minute etc ...)
- or the SYS that must be set by the programmer in order to enable a particular resource of the PLC (for example, the encoder input is not considered a fast input to the encoder if it is not activated on the SYS and so for other resources)

In the second case in question, i.e. the activation of a resource via the setting of a SYS, it is normally performed inside the INITIALIZE subroutine; this because being that subroutine accessed by default from the PLC to the first cycle you will have available the resource in question for the duration of the program.
Into PLC are defined different system flag to make available information relating to the state and to enable / disable some internal resources.

We see the complete map of all the flags of the system :

SYS Name	Description
SYS_00	Always false flag
SYS_01	Always true flag
SYS_02	High only the first program cycle
SYS_03	CMP result , high if the two CMP operands are equal
SYS_04	CMP result , high if OPR_1 < OPR_2
SYS_05	CMP result , high if OPR_1 > OPR_2
x	x
SYS_07	Receiving SMS message "Done"
SYS_08	Transmission of the page written in DATA_22 via SMS to the number DATA_945, DATA_946 / 947
SYS_09	Enable Interrupt input and USER_INT function
SYS_10	Erasing all flags at power on
SYS_11	Fast DAC activation
SYS_12	Write enable seconds of the Real Time Clock on DATA_55 (only if SYS_18 and SYS_12 are active)
SYS_13	High any 15 minutes
SYS_14	Blink (0.5 sec ON and 0.5 sec OFF)
SYS_15	High any 10 msec
SYS_16	High any 100 msec
SYS_17	High any second
SYS_18	Real Time Clock enable (and of the plugged RAM DATA_432..DATA_511)
SYS_19	Analogic inputs enable
SYS_20	Forcing EEPROM salvage (DATA_22 = start, DATA_23 = stop)
SYS_21	EEPROM salvage of a memory block
SYS_22	Restoration the EEPROM of a memory block
SYS_23	BUZZER enable
SYS_24	Enable PID regulator PWM mode channel 0
SYS_25	Enable PID regulator MODULATION mode channel 0
SYS_26	PID regulator : Output PWM mode or output OPEN MODUL mode channel 0
SYS_27	PID regulator : Output MODUL mode CLOSE channel 0
SYS_28	PID regulator : Ready flag channel 0
SYS_29	PID regulator : Alarm flag channel 0
...	...
SYS_32	Enable PID regulator PWM mode channel 1
SYS_33	Enable PID regulator MODULATION mode channel 1

SYS_34	PID regulator : Output PWM mode or output OPEN MODUL mode channel 1
SYS_35	PID regulator : Output MODUL mode CLOSE channel 1
SYS_36	PID regulator : Ready flag channel 1
SYS_37	PID regulator : Alarm flag channel 1
...	...
SYS_40	Enable encoder 0 mono-directional (DATA_994/995)
SYS_41	Enable encoder 0 bidirectional
SYS_42	Enable automatic reset encoder 0 (with value DATA_992/993)
SYS_43	Output automatic reset encoder 0
SYS_44	Enable encoder 1 mono-directional (DATA_996/997)
SYS_45	Enable encoder 1 bidirectional
SYS_46	Enable automatic reset encoder 1 (with value DATA_998/999)
SYS_47	Output automatic reset encoder 1
SYS_48	Output step motor 0 generator
SYS_49	Step motor 0 placement under execution
SYS_50	Step motor 0 placement finish
SYS_51	COM_0 reading command
SYS_52	COM_0 writing command
SYS_53	COM_1 reading command
SYS_54	COM_1 writing command
SYS_55	Enable electric cams generator
SYS_56	Enable PWM generator channel 0
SYS_57	Enable PWM generator channel 1
SYS_58	Command EEPROM salvage recipe
SYS_59	Command recipe restoration from EEPROM
SYS_60	Enable COM_0 print (DATA_22=start page, DATA_23=stop page)
SYS_61	Enable COM_1 print (DATA_22=start page, DATA_23=stop page)
SYS_62	Enable COM_0 string transmission (DATA_22=start DATA, DATA_23=stop DATA)
SYS_63	Enable COM_1 string transmission (DATA_22=start DATA, DATA_23=stop DATA)
SYS_64	Enable Timer 1 millisecond on DATA_64
...	...
SYS_71	Enable Timer 1 millisecond on DATA_71
...	...
SYS_78	Rx PLC COM External
SYS_79	Enable Weekly-Programs
SYS_80	State weekly program n. 1
...	...
SYS_95	State weekly program n. 16
SYS_96	Output step motor 1 generator
SYS_97	Step motor 1 placement under execution
SYS_98	Step motor 1 placement finish
SYS_100	Analog activation AD7730 - channel 0 (only GTP_128)
SYS_101	Analog activation AD7730 - channel 1 (only GTP_128)
SYS_102	Analog activation AD7730 - channel 2 (only GTP_128)
SYS_103	Analog activation AD7730 - channel 3 (only GTP_128)
SYS_104	Activation of the reset of the AD7730 converter for load cells (GTP_128)
SYS_105	COM_2 reading command
SYS_106	COM_2 writing command
SYS_107	Activation of the PID controller Channel 0 DC motor DAC output

SYS_109	Activation of the PID controller Channel 0 asynchronous motor (inverter DAC output)
SYS_111	Activation of the PID controller Channel 0 step motor
SYS_113	Activation of the PID controller Channel 0 PWM of the PM100 (14 bit)
SYS_114	Activation motor Channel 0 of the PM100
SYS_115	Enabling direct management of the PM 100 14-bit PWM (duty cycle of DATA_80 and DATA_81)
SYS_116	Write command double word (32 bits) of COM_0 (see SYS_52)
SYS_118	Write command double word (32 bits) of COM_1 (see SYS_54)
SYS_120	Flag reset serial communication alarms on COM_0, if activated reset errors due to a possible communication error and resets the pointer of the reception buffer
SYS_121	Flag reset serial communication alarms on COM_1, if activated reset errors due to a possible communication error and resets the pointer of the reception buffer
SYS_122	Flag reset serial communication alarms on COM_2, if activated reset errors due to a possible communication error and resets the pointer of the reception buffer

5 SYS - ARM SYSTEMS

Each system flag is written as : "**SYS.nn**". The SYS are the individual bits (0 or 1) and can be substantially of two types :

- SYS used by the operating system to signal the state of a resource (for example, there are SYS active every second, every minute etc ...)
- or the SYS that must be set by the programmer in order to enable a particular resource of the PLC (for example, the encoder input is not considered a fast input to the encoder if it is not activated on the SYS and so for other resources)

In the second case in question, i.e. the activation of a resource via the setting of a SYS, it is normally performed inside the INITIALIZE subroutine; this because being that subroutine accessed by default from the PLC to the first cycle you will have available the resource in question for the duration of the program.
Into PLC are defined different system flag to make available information relating to the state and to enable / disable some internal resources.

We see the complete map of all the flags of the system :

SYS Name	Description
SYS.00	Always false flag
SYS.01	Always true flag
SYS.02	High only the first program cycle
SYS.03	Flag used by instruction CMP (compare): SYS.03 active if the first operand is equal to second. OPR1 = OPR2
SYS.04	Flag used by instruction CMP (compare): SYS.04 active if the first operand is lower than the second. OPR1 < OPR2
SYS.05	Flag used by instruction CMP (appears): SYS.05 active if the first operand is higher than the second. OPR1 > OPR2
SYS.06	Mathematics Flag : Carry - NOT USED
SYS.08	High any 10 msec
SYS.09	High any 100 msec
SYS.10	High any second
SYS.11	High any minute
SYS.12	High any 15 minutes
SYS.13	High any 1 hour
SYS.14	Blink (0.5 sec ON and 0.5 sec OFF)

SYS.15	Blink (1.0 sec ON and 1.0 sec OFF)
SYS.16	BUZZER enable
SYS.17	Enable WF_FIFO management
SYS.18	Enable WS_FIFO management
SYS.19	Enable Encoder simulation
SYS.20	EEPROM Data saving : DATA.58 must contain the address of the first register to be saved (value between 4097 and 8191), while DATA.59 must contain the address of the last log to be saved (value between 4097 and 8191)
SYS.21	Save recipe
SYS.22	Load recipe
SYS.23	KNP Net.ENA
SYS.24	High any 5 minutes
SYS.25	High any 2.5 minutes
SYS.26	Signal communication active
SYS.28	MAC_WP : Week Program active
SYS.29	MAC_SEGMENT active
SYS.30	Active 1 second out of 10
SYS.31	USB Ready
SYS.32	Week Program N°00 active
...	...
SYS.95	Week Program N°63 active
SYS.96	Transmission with FREE protocol on COM 0
SYS.97	Transmission with FREE protocol on COM 1
SYS.98	Transmission with FREE protocol on COM 2
SYS.99	Transmission with FREE protocol on COM 3
SYS.100	Transmission with FREE protocol on COM 4
SYS.101	Transmission with FREE protocol on COM 5
SYS.102	Virtual Inputs
SYS.103	FTP Send
SYS.104	Enable E_METER
SYS.108	Enable Electronic CAMS
SYS.109	Init. External Variables
SYS.112	Activation TIM 0 to 1 msec base
...	...
SYS.119	Activation TIM 7 to 1 msec base
SYS.120	**PID : Channel 0 - Enable :** Enable of the Channel 0
SYS.121	**PID : Channel 0 - Temperature :** If enabled, is copied directly into DATA.432 [Input] the degrees value read by ADC 0
SYS.122	**PID : Channel 0 - Invert :** If enabled, the PID operates in reversed manner, that is to cool! Instead of giving power, takes it off
SYS.123	**PID : Channel 0 - Out :** Out "pulsing" of the PID. To be copied on a static out
SYS.124	**PID : Channel 0 - Ready :** Bit raised when you are inside the Regulation Band
SYS.125	PID : Channel 0 – Alarm : Bit raised when the temperature is greater than or equal to SET POINT [DATA.433] + Alarm DATA [DATA.439]

SYS.128	**PID : Channel 1 - Enable :** Enable of the Channel 1
SYS.129	**PID : Channel 1 - Temperature :** If enabled, is copied directly into DATA.448 [Input] the degrees value read by ADC 1
SYS.130	**PID : Channel 1 - Invert :** If enabled, the PID operates in reversed manner, that is to cool! Instead of giving power, takes it off
SYS.131	**PID : Channel 1 - Out :** Out "pulsing" of the PID. To be copied on a static out
SYS.132	**PID : Channel 1 - Ready :** Bit raised when you are inside the Regulation Band
SYS.133	**PID : Channel 1 - Alarm** : Bit raised when the temperature is greater than or equal to SET POINT [DATA.449] + Alarm DATA [DATA.455]
SYS.136	**PID : Channel 2 - Enable** : Enable of the Channel 2
SYS.137	**PID : Channel 2 - Temperature** : If enabled, is copied directly into DATA.464 [Input] the degrees value read by ADC 2
SYS.138	**PID : Channel 2 - Invert** : If enabled, the PID operates in reversed manner, that is to cool! Instead of giving power, takes it off
SYS.139	**PID : Channel 2 - Out** : Out "pulsing" of the PID. To be copied on a static out
SYS.140	**PID : Channel 2 - Ready** : Bit raised when you are inside the Regulation Band
SYS.141	**PID : Channel 2 - Alarm :** Bit raised when the temperature is greater than or equal to SET POINT [DATA.465] + Alarm DATA [DATA.471]
SYS.144	**PID : Channel 3 - Enable :** Enable of the Channel 3
SYS.145	**PID : Channel 3 - Temperature :** If enabled, is copied directly into DATA.480 [Input] the degrees value read by ADC 3
SYS.146	**PID : Channel 3 - Invert :** If enabled, the PID operates in reversed manner, that is to cool! Instead of giving power, takes it off
SYS.147	**PID : Channel 3 - Out :** Out "pulsing" of the PID. To be copied on a static out
SYS.148	**PID : Channel 3 - Ready :** Bit raised when you are inside the Regulation Band
SYS.149	**PID : Channel 3 - Alarm** : Bit raised when the temperature is greater than or equal to SET POINT [DATA.481] + Alarm DATA [DATA.487]
SYS.152	**PID : Channel 4 - Enable** : Enable of the Channel 4
SYS.153	**PID : Channel 4 - Temperature** : If enabled, is copied directly into DATA.496 [Input] the degrees value read by ADC 4
SYS.154	**PID : Channel 4 - Invert** : If enabled, the PID operates in reversed manner, that is to cool! Instead of giving power, takes it off
SYS.155	**PID : Channel 4 - Out** : Out "pulsing" of the PID. To be copied on a static out
SYS.156	**PID : Channel 4 - Ready** : Bit raised when you are inside the Regulation Band
SYS.157	**PID : Channel 4 - Alarm :** Bit raised when the temperature is greater than or equal to SET POINT [DATA.497] + Alarm DATA [DATA.503]
SYS.160	**PID : Channel 5 - Enable :** Enable of the Channel 5
SYS.161	**PID : Channel 5 - Temperature :** If enabled, is copied directly into DATA.512 [Input] the degrees value read by ADC 5
SYS.162	**PID : Channel 5 - Invert :**

	If enabled, the PID operates in reversed manner, that is to cool! Instead of giving power, takes it off
SYS.163	**PID : Channel 5 - Out :** Out "pulsing" of the PID. To be copied on a static out
SYS.164	**PID : Channel 5 - Ready :** Bit raised when you are inside the Regulation Band
SYS.165	**PID : Channel 5 - Alarm** : Bit raised when the temperature is greater than or equal to SET POINT [DATA.513] + Alarm DATA [DATA.519]
SYS.168	**PID : Channel 6 - Enable :** Enable of the Channel 6
SYS.169	**PID : Channel 6 - Temperature :** If enabled, is copied directly into DATA.528 [Input] the degrees value read by ADC 6
SYS.170	**PID : Channel 6 - Invert :** If enabled, the PID operates in reversed manner, that is to cool! Instead of giving power, takes it off
SYS.171	**PID : Channel 6 - Out :** Out "pulsing" of the PID. To be copied on a static out
SYS.172	**PID : Channel 6 - Ready :** Bit raised when you are inside the Regulation Band
SYS.173	**PID : Channel 6 - Alarm :** Bit raised when the temperature is greater than or equal to SET POINT [DATA.529] + Alarm DATA [DATA.535]
SYS.176	**PID : Channel 7 - Enable :** Enable of the Channel 7
SYS.177	**PID : Channel 7 - Temperature :** If enabled, is copied directly into DATA.544 [Input] the degrees value read by ADC 7
SYS.178	**PID : Channel 7 - Invert :** If enabled, the PID operates in reversed manner, that is to cool! Instead of giving power, takes it off
SYS.179	**PID : Channel 7 - Out :** Out "pulsing" of the PID. To be copied on a static out
SYS.180	**PID : Channel 7 - Ready :** Bit raised when you are inside the Regulation Band
SYS.181	**PID : Channel 7 - Alarm** : Bit raised when the temperature is greater than or equal to SET POINT [DATA.545] + Alarm DATA [DATA.551]
SYS.184	Encoder 0 Monodirectional
SYS.185	Encoder 0 Bidirectional
SYS.186	Encoder 0 Preset Reached
SYS.188	Encoder 1 Monodirectional
SYS.189	Encoder 1 Bidirectional
SYS.190	Encoder 1 Preset Reached
SYS.192	Encoder 2 Monodirectional
SYS.193	Encoder 2 Bidirectional
SYS.194	Encoder 2 Preset Reached
SYS.196	Encoder 3 Monodirectional
SYS.197	Encoder 3 Bidirectional
SYS.198	Encoder 3 Preset Reached
SYS.200	Encoder 4 Monodirectional
SYS.201	Encoder 4 Bidirectional
SYS.202	Encoder 4 Preset Reached
SYS.204	Encoder 5 Monodirectional
SYS.205	Encoder 5 Bidirectional
SYS.206	Encoder 5 Preset Reached

SYS.208	Encoder 6 Monodirectional
SYS.209	Encoder 6 Bidirectional
SYS.210	Encoder 6 Preset Reached
SYS.212	Encoder 7 Monodirectional
SYS.213	Encoder 7 Bidirectional
SYS.214	Encoder 7 Preset Reached
SYS.216	STEP 0 = Start
SYS.217	STEP 0 = Manual
SYS.218	STEP 0 = Running
SYS.219	STEP 0 = Immediate STOP
SYS.220	STEP 1 = Start
SYS.221	STEP 1 = Manual
SYS.222	STEP 1 = Running
SYS.223	STEP 1 = Immediate STOP
SYS.224	STEP 2 = Start
SYS.225	STEP 2 = Manual
SYS.226	STEP 2 = Running
SYS.227	STEP 2 = Immediate STOP
SYS.228	STEP 3 = Start
SYS.229	STEP 3 = Manual
SYS.230	STEP 3 = Running
SYS.231	STEP 3 = Immediate STOP
SYS.232	PWM_0 Enable
SYS.233	PWM_0 Update
SYS.234	PWM_1 Enable
SYS.235	PWM_1 Update
SYS.236	ETH Reinit.
SYS.237	TCP_CLIENT_TX
SYS.238	x
SYS.239	UDP SEND
SYS.240	GSM SYS init error
SYS.241	GSM OK received
SYS.242	GSM tx page

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