Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
	BOARD MODEL:	**Tinaxis Plus BL120 and BL600**						
ACC	Acceleration	Set the acceleration ramp in trapezoidal move (mode 6 and 8). Example: 1000 gives an acceleration of 1000 RPM each second	Only positive values are accepted.	RPM / sec	RW	0		1000
AMP_I1	Amplifier input 1 vector	If amplifier is set to single output (BLDC motors), the amplifier output is the Amplifier_Input_1 + Amplifier_Input_2	Only a register number is accepted (example: amp_i1="pid1_o")					
AMP_I2	Amplifier input 2 vector	If amplifier is set to dual output (DC motors), the amplifier output is the Amplifier_Input_1 is for output 1 and Amplifier_Input_2 is for output 2						
AMP_MD	Amplifier mode	Mode of the amplifier Existing modes: 0: free wheel (motor phases disconnected) 1: Full passive brake (energy is dissipated inside the motor) 2: Progressive brake 3: 4 Quadrants drive (default mode for active modes) 4: 2 Quadrants (can be used to increase efficiency in some motors) 5: Sensorless 6: Hall driven 4 q. BLDC with phase advance 10: DUAL DC motor (between U and W)						
BRAKE	Brake level	Used only in variable brake mode. Set the duty cycle of braking. 0 is 0%, 1024 is 100%.			RW			
CALC_T	Calculated temperature elevation	Calculated temperature increase in the coil	Warning: this temperature is calculated, by integration of motor incoming power along time as well as estimated cooling. Therefore this value is not precise at all. It's only purpose a protection of the motor in the case of high peek power. Note: the value does not return to 0 due to finite calculation. This calculation require empiric ajustment od TH_RES and TH_SLOP factors	1/ 1048576 ℃ (1/2^20).	RW			
CNF_XEN		External encoder configuration (incremental encoder connector)	0: normal 1: reverse counting -1: simply read encoder as inputs. A is bit 0, B is bit 1 and I is bit 2.		RW			
COM1ADR	Com port address	Adress on COM1 port (if selected protocol allows adress)						
COM1CFG	Com port configuration	Com port 1 configuration (1 = DM Remote, …). Please refer to the manual about COM ports on Tinaxis boards						
COM1ERR	Com port error	Error detected						
COM1PAR	Com port parameter							
COM1SP	Com port speed	Port frequency in bauds (bit per second). Any value can be set.	The value is sometimes rounded according to the hardware capability. While the rounding error is less than ±5%, there is no problem. For example, when setting 57600, the real value is 57603, it is not exact but very precise anyway	bit/sec	RW			
COM1STA	Com port status							
COM1TIM	Com port time	Elapsed time since last communication						
COM2ADR		Adress on COM2 port (if selected protocol allows adress)						
COM2CFG								
COM2ERR								
COM2PAR								
COM2SP								
COM2STA								
COM2TIM								
COM3ADR		Adress on COM3 port (if selected protocol allows adress)						

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
COM3CFG								
COM3ERR								
COM3PAR								
COM3SP								
COM3STA								
COM3TIM								
DATE	Firmware date code				RW			
DEBUG	Debug system	Show information on the serial connection RS232/USB cable or RS485	0: no debug info 1: print every operation executed		RW			0
DEC	Deceleration			RPM / sec	RW	0		1000
DM_CTRL	Manufacturer (Dynamic Motion) control register	This register's main purpose is related to production. However some of the values can be useful for programmers. Please do not use this register except if you know exactly what you are doing. Some values can damage the board and repair is then not under waranty.	Useful values: Setting the value to 10: rest all registers to their power-up state 12: stop the BASIC execution 13: start the BASIC execution 14: restart the BASIC to beginning of software 16: erase EE_1 to EE_10 11: Unlock and clear. (reset KEY1, KEY2, LOCK1,LOCK2), erase the BASIC software and reset all registers 20: Update firmware (in some models) 1234: BL60 and BL150 families ONLY: shows the HALL sensors to the 3 first outputs (visible with LED) 30 and then 21: Erase firmware (WARNING: make the board unusable, the only remaining possibility is reloading a new firmware)		RW			0
EE_1,	Flash memory 1	Non volatile memory (is saved to flash immediately). Attention, after 20'000 to 200'000 (depending on board model) cycles of write, data integrity in not guaranteed			RW			-1
EE_10,	Flash memory 10	same			RW			same
EE_2,	Flash memory 2	same			RW			same
EE_3,	Flash memory 3	same			RW			same
EE_4,	Flash memory 4	same			RW			same
EE_5,	Flash memory 5	same			RW			same
EE_6,	Flash memory 6	same			RW			same
EE_7,	Flash memory 7	same			RW			same
EE_8,	Flash memory 8	same			RW			same
EE_9,	Flash memory 9	same			RW			same
ENC_RES	Related to SPI encoder. Not applicable for Quadrature encoder input	Encoder resolution per shat resolution. ATTENTION: this number is the count of events or points or signal transition (4 times greater than lines count in quadrature encoders)	a negative value reverse the counting direction					
ENC_RES	unused	Not linked to any internal computation. Free to use						
ENC_SOU	unused	for compatibility with other boards						
ERR_BAS		Last error and it's line number	6 first digits: line number digit 10 and 11: error code	-	RW			0

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
ERROR		BITS indicating each of the error: Bits 0 to 7: present only when the error is active Bit 0: Over temperature Bit 1: Over voltage Bit 2: Tracking error exceeded Bit 3: Over current Bit 4: Current limitation active Bits 8 to 15: the same bits but not reset when error is cleared Bit 8: Over temperature Bit 9: Over voltage Bit 10: Tracking error exceeded Bit 11: Over current Bit 12: Current limitation active Example: Hexa 301 is 769 decimal, means over temperature and over voltage has occured but is not present currently.	Note: to access a bit, use logical calculation. Exemple: 8 binary is 1000, so this expression take an action when the 4th bit is active. If ERROR & 8 > 0 then goto 99 Exemple 2: ERROR register value is 4096, what is the meaning? 4096 to hexa = 0h1000. The meaning is that current limitation has occur but is not currently active	-	RW			0
FEM	BACK EMF constant	Please fill this value with the value given by the motor manufacturer		mV @ 1000RPM				
FF_ACC	Feed forward (predictive module)	Open loop current contribution: current proportional to acceleration target.	Can be from 0 to 200%. Warning: it works only when motor resistance, back-EMF and INERTIA are correctely filled	%				
FF_FRIC	Feed forward (predictive module)	Open loop voltage contribution: constant voltage applied in the direction of the target rotation direction.	Normally not used: creates instability	%				
FF_O	Feed forward output	Output voltage of the feed forward		mV				
FF_SP	Feed forward (predictive module)	Open loop voltage contribution: voltage proportional to speed target.	Can be from 0 to 200%. Warning: it works only when motor resistance and back-EMF are correctely filled	%				
FRICT		Friction compensation contribution						
HAL_RES		Hall sensors resolution per shaft tevolution (When HALL sensor: 6 for bipolar motors, 12 for quadri.)…	a negative value reverse the counting direction					
HALL	Binary state of the HALL sensor input	Hall sensor A mirrored on bit 0 B on bit 1 C on bit 2						
HALL_N	Hall sensor converted to step 0 to 5							
I_MAX	Maximum current	Maximum Motor current (I_MOT), all phases together. When current is reached, the motor voltage will automatically decrease to stabilize the current at the max value. The current PID loop will manage the current stability (see PIDC_P, PIDC_I. PIDC_D)		mA	RW	0		
I_MOT	Real motor current (measured)	Real motor current (measured at output of power amplifier) (negative current or very near to 0 is not measured) This value is proportional to motor torque. This value is not precise. This value is generally higher than the input current mesured on the power-supply side (PWM chopper converts power from Voltage IN x Current IN to Voltage OUT x Current OUT. If Voltage OUT is lower than Voltage IN then Current OUT is higher than Current IN)		mA				

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
I_P_MAX	Maximum power supply current	Maximum power supply current, can be used to protect the power supply source. Note: current may exceed this value during short time, during stabilization When current is reached, the motor voltage will automatically decrease to stabilize the current at the max value (see P_LIM_I)						
I_POW	Power supply current (calculated)	current of the power supply current (negative current or very near to 0 is not measured) This value is NOT proportional to motor torque. This value is not precise.		mA				
IN1	Analog input	measured voltage (in mV)			R			
IN1	Digital input	0 or 1			R			
IN2		Digital input			R			
IN3		Digital input			R			
IN4		Digital input			R			
INERTIA	Rotor inertia	Inertia of the load, view by the motor shaft This value is used in predictive module only (feed forward)		g cm²				
JOG	Speed target	Speed target: this value controls the mouvements in trapezoidal speed mode	When the mode is set to automatic (default state after power-up, or after setting mode to 0), the mode automatically switch to 6 when JOG is set.	RPM	RW			0
KEY1	Lock system, key code nr. 1	This is a mechanism to allow software confidentiality. When locked, the read software, upload software and read all registers is forbiden. The read/write of the individual registers is still allowed.	Usage: Inspired form the real world, key and lock must be the same to open. The lock code cannot be seen. It is 0 before first usage. To lock the system: change the value of "LOCK1" and/or "LOCK2". The system is not immediately locked because KEYx values follows the change. After reset or KEYx value change, the system is locked. To unlock the system: set KEY1 and KEY2 values to the secret LOCK1 and LOCK2 value. After unlock, you can set LOCKx at 0 to avoid locking at next reset. If the unlocking values are lost: you can clear the part by changing DM_CTRL to 11. It unlocks, but also clean the BASIC file and reset the LOCK and KEY values to 0		RW			0
KEY2	Lock system, key code nr. 2	Please see "KEY1"	same as KEY1		R/W			0
LED	System LED blinking mode	0: default (2Hz when software is running, 1Hz when software is not running) -255 to 255, except 0: various blinking modes Note: has no effect in BL962 and BL600						

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
LOCK1	Lock system, code nr. 1	To be used together with KEY1	When locked, the user access is limited: read, write the software and read the register list is not allowed. Individual register read and write is still allowed To lock the system, arrange that the KEYx is not the same as LOCKx. You must set a new value for LOCKx To unlock the system, the lock and the key must have the same value. The LOCK1 and LOCK2 values are kept in flash memory and can never been read (a read always returns 0). It can be written when the locks and keys are the same, otherwize it can't be changed. This register is write only. It returns always 0 when read. It can be written in the only condition that the KEY1 has the same initial value and KEY2 match LOCK2. When write successful, KEY1 get the same value		write only			Factory default: 0
LOCK2	Lock system, code nr. 2	To be used together with KEY2 This register is write only. It returns always 0 when read. It can be written in the only condition that the KEY2 has the same initial value and KEY1 match LOCK1. When write successful, KEY2 get the same value	Same as before. Example of use: Upload your user software. Then chenge the 2 locks using the communication software va LOCK1 123 va LOCK2 456 then cycle the board power. Click on the "print software" or "get registers" and see that the board deny access Now set the keys: va KEY1 123 va KEY2 456 Click on the "print software" or "get registers" and see that ith board is now responding		write only			Factory default: 0
M_SP_N	Maximum speed in negative direction	Max speed during a move in positioning mode, negative direction		RPM		0		1000
M_SP_P	Maximum speed in positive direction	Max speed during a move in positioning mode, positive direction		RPM		0		1000
MAX_MOT	Maximum motor voltage	The amplifier will not exceed this maximum voltage	The aim of this refister is additional protecton level for the connected motor.	mV				
MAX_T	Maximum temperature (form measured "TEMPER")	Will disable power stage when this temperature is reached. A thresold of 10° lower must be reached before starting again	Is limited to the max value shown in the hardware documentation. Reset value is a good compromise between safety and performance.	1/1000 °C				
MAX_VIN	Maximum input voltage	Driver will switch OFF it's output when this value is exceeded. Also set an error bit in ERROR register		mV				
MIN_VIN	Minimum voltage	Below minimum voltage, the power amplifier is not enabled						

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
MODE	System mode	MODE Acts as a wizard to change a lot of parameters. Motor mode, can change between positioning, speed controlled, open loop and drive method. Automatic change system. When the mode is set to 0 (by default), the mode is at the same time set to automatic. When the mode is set to any other nr, it is set to manual. When automatic, an action on the TARRGET, JOG and MOT_V will automatically set the mode to the corresponding nr, but without affecting the fact that it is automatic. JOG -> change mode to 6 TARGET -> mode to 8 MOT_V -> mode to 4 AUTOMATIC is enabled by writing 0 and disabling by writing any other value. Possible values: 0: Free wheel, and automatic change 1: passive BRAKE 2: free wheel 4: Open loop 4 quadrants 6: PLL Speed loop (PID) 8: Positionning with trapezoidal move 10: 2 DC motors connected to the output 12: Cyclic mouvement (cam emulator) (optional)	When the mode is not changed explicitly, it will be changed automatically with the use of motion variables: assign JOG -> change mode to 6 assign TARGET -> mode to 8 assign U_MOT -> mode to 4 AUTOMATIC is enabled by writing 0 and disabling by writing any other value. It is by default enabled	-	RW			0

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
MODE	Wizard that setup the motion registers	MODE Acts as a wizard to change a lot of parameters. Motor mode, can change between positioning, speed controlled, open loop and drive method. Automatic change system. When the mode is set to 0 (by default), the mode is at the same time set to automatic. When the mode is set to any other nr, it is set to manual. When automatic, an action on the TARRGET, JOG and MOT_V will automatically set the mode to the corresponding nr, but without affecting the fact that it is automatic. JOG -> change mode to 6 TARGET -> mode to 8 MOT_V -> mode to 4 AUTOMATIC is enabled by writing 0 and disabling by writing any other value. Possible values: 0: Free wheel, and automatic change 1: passive BRAKE 2: free wheel 4: Open loop 4 quadrants 6: PLL Speed loop (PID) 8: Positionning with trapezoidal move 10: 2 DC motors connected to the output 12: Cyclic mouvement (cam emulator) (optional)	When the mode is not changed explicitly, it will be changed automatically with the use of motion variables: assign JOG -> change mode to 6 assign TARGET -> mode to 8 assign U_MOT -> mode to 4 AUTOMATIC is enabled by writing 0 and disabling by writing any other value. It is by default enabled	-				0
MODEL		Driver model code			R			
MOT_V	Motor voltage (target value)	whished motor voltage value (in voltage mode)		mV	RW			
MOT_V0	Motor voltage (output of the amplifier, after control and limitations)				R			
MOT_V1	Motor voltage (input of the amplifier, before control)				R			
NULL	Parking address	Vector parking adress (usd for any unused address)	always zero		R			
OSC_1	Oscilloscope channel 1	Index of the register to record	Example of use: OSC_1="POS" or OSC_1=0 (0 is the index of "A")		RW			"SPEED"
OSC_2	Oscilloscope channel 2	Index of the register to record			RW			"POS"
OSC_CNF	Oscilloscope configuration	By default, oscilloscope recording memory is compressed to 16 bits. Only the increment between elements is stored. The consequence is that the oscilloscope makes mistakes when recording values with a swing of more than ±32767 between samples. Some board models propose an oscilloscope mode of no compression, with 1/2 the depth of memory.	Oscilloscope configuration: 0: values stored with compression (maximum ±32000 between 2 consecutive values) 1: not compressed					
OSC_P	Oscilloscope memory (number of points)				R			

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
OSC_T	Oscilloscope period of recording	Changing this value immediately reset and start oscilloscope recording.	Setting a value of 4 will record 1 sample each 4 ms.	ms	RW			
OUT1	Output 1 data	NPN output (pull down when active) digital state (logical state) 0 or 1. 0 is not conducting and 1 is conducting			RW			0
OUT2	Output 2 data	same ad OUT1			RW			0
OUT3	Output 3 data	same ad OUT1						
PHAS_A	Phase advance (amplifier set to sensorless)				1/50 µs			
PID1_A		Unused						
PID1_C		PID configuration To configurate, add the choices to make the value: Pid speed: 0: 1kHz Future: more parameters						
PID1_D	PID 1 derivative factor		Unit: depend on selected inputs and output. Exp : d(inc encoder) / 8 ms Init value: according motor and board type					
PID1_I	PID 1 integral factor		UNIT: depend on selected inputs and output. Resolution increased by 256 times compared to P factor Exemple: 1/256 mV per (ms x inc. encoder) Init value: according motor and board type					
PID1_IA	PID 1 add vector	This must be set as a vector, to point to a register. Write the register in "" Example: PID1_IA="POS_TAR"	Note: if the PID action must be reversed (output polarity changed), the vectors PID_IA and PID_IS can be exchanged					
PID1_IS	PID 1 substract vector	This must be set as a vector, to point to a register. Write the register in "" Example: PID1_IS="POS"						
PID1_L								
PID1_MD		PID derivative filtering memory Value of the derivative filter memory. The main use of this value is to set it to zero when the history must be cleared						
PID1_MI		PID Integral memory Value of the integration accumulator. The main use of this value is to set it to zero when the history must be cleared						
PID1_O	PID 1 output	The output value is available to another bolck to "vector" it as it's input (Example AMP_I1="PID1_O")						
PID1_P	PID 1 proportional factor		Unit: depend on selected inputs and output. For example: mV per inc. encoder Init value: according motor and board type					

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
PID1_S	PID 1 Saturation value for the integral	PID Integral saturation value. When 0, it is automatically chosen. Otherwize choose a value that allows enough variation but not too much. For example, if PID is connected to amplifier, choose a value the amplifier to swing by the supply voltage, not more. (PIDx_S <VOLTAGE x 256 /PID_I)	Default: PIDx_S =MAX_BOARD_VOLTAGE x 256 /PID_I					
PID2_A		same as PID1						
PID2_C		same as PID1						
PID2_D		same as PID1						
PID2_I		same as PID1						
PID2_IA		same as PID1						
PID2_IS		same as PID1						
PID2_L		same as PID1						
PID2_MD		same as PID1						
PID2_MI		same as PID1						
PID2_O		same as PID1						
PID2_P		same as PID1						
PID2_S		same as PID1						
PID3_A		same as PID1						
PID3_C		same as PID1						
PID3_D		same as PID1						
PID3_I		same as PID1						
PID3_IA		same as PID1						
PID3_IS		same as PID1						
PID3_L		same as PID1						
PID3_MD		same as PID1						
PID3_MI		same as PID1						
PID3_O		same as PID1						
PID3_P		same as PID1						
PID3_S		same as PID1						
PID4_A		same as PID1						
PID4_C		same as PID1						
PID4_D		same as PID1						
PID4_I		same as PID1						
PID4_IA		same as PID1						
PID4_IS		same as PID1						
PID4_L		same as PID1						
PID4_MD		same as PID1						
PID4_MI		same as PID1						
PID4_O		same as PID1						
PID4_P		same as PID1						
PID4_S		same as PID1						
POL_CNT	Number of magnetic poles	Used in sensorless and sinus commutation only	Depend on motor construction. Please refer to motor documentation Factor of 2 (always the same amount of North than South poles)					
POS	Default Current position	Unused						0
POS_HAL	Position measuring in HALL sensor events		Current position in HALL sensor events (or sensorless elementary steps). When the motor is bipolar, there is 6 steps per turn, when the motor is quadripolar, 12 steps, and so one.					

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
POS_TAR		Output of the trajectory generator Unit: Current unit, normally encoder increment	POS_TAR (equivalent to MOV_TAR in version 1.x)					
POS_XEN	Position measuring with External encoder	External encoder: conneted to the quadrature encoder connector		enc step	R/W			
PR_CONF	instruction "PRINT" configuration and ERROR messages		see table below. Recommended: 1 in normal use, 9 during software tests, 11=default BIT 0: allow print to LCD display BIT 1: Allow print to UART main channel BIT 2: Print errors on LCD display BIT 3: Print exceptions on UART main channel		RW			11
PWM_F	PWM frequency	Chopper PWM frewuency. The min and max frequency may differ from 1 board to another	Higher frequency makes lower losses in motor but higher losses in driver. Lower frequency than 15000 Hz may be audible. Higher frequency also limits the maximum voltage available to the motor.	Hz				
PWM_O	PWM output	PWM output value (direct to hardware PWM generators)			R			
PWM_P	PWM period	PWM period value (direct to hardware PWM generators)			R			
R_MOT	Motor resistance	Please fill this value with the value given by the motor manufacturer		mOhm	RW			
REG_RI	Feed forward	Feed forward, voltage compensation proportional to current (called regulation R x i)	percentage of contribution	%				
SER_SP	Serial communication speed (COM1)	Serial communication speed Default is 9600 bps The speed is blocked at 9600 bps during the first 2 seconds (this gives the time to stop the software after power-up, in case of wrong programming and communication loss.) The available speeds are: 1200, 2400, 4800, 9600, 19400, 38400, 57600. If more than 1 channel is available, this is for the main channel (programming connector).	Default value: 57600	bits / sec				
SER_SP2	Serial communication speed on port COM2	Serial communication speed Default is 9600 bps The speed is blocked at 9600 bps during the first 2 seconds (this gives the time to stop the software after power-up, in case of wrong programming and communication loss.) The available speeds are: 1200, 2400, 4800, 9600, 19400, 38400, 57600. If more than 1 channel is available, this is for the main channel (programming connector).	Default value: 57600	bits / sec				
SERIAL	Serial number	Generally unused. Optionnaly filled with unique serial number			RW			
SL_CP	Sensorless							
SL_G	Sensorless	Sensorless Gain						
SL_GD	Sensorless	Damping factor on gain						
SL_GS	Sensorless							
SL_IOLP	Sensorless	Init period (beginning of the open loop starting phase)						
SL_IOLV	Sensorless	Init voltage (beginning of the open loop starting phase)						
SL_OFD	Sensorless	OFF delay for clean BEMF measurement						
SL_OL_A	Sensorless	Open loop acceleration						
SL_OLMP	Sensorless	Open loop minimum period (if locking has not occuerd at this period, startup cycle is initialized)						
SL_TYP	Sensorless	Type of sensorless. Reserved for future use						

Var.. name	Description summary	Detailed description	Speciality behaviour, additional note	Unit	R/W	min val	max val	Reset val
SP_TAR		Speed target (output of trajectory generator)		RPM				
SPEED	Current measured speed	Current speed: automatic selection of the best measure, with the best filter Unit: RPM Note: the speed measurement comes from measuring the time between events, or counting the amount of events during a time, or measuring analog values from the motor. Every method has advantages and drawbacks, in term of precision and delay, but none is perfect, that's why a smart change between method offers the best results.		RPM				
TARGET	Position target (input)	Position target: this value controls the mouvements in trapezoidal positionning mode. Unit: resolution given by the regiter "GEN_RES" Examples: 1/12 revolution in 4 poles BLDC without integrated encoder		enc/microstep				
TEMPER	Measured temperature	Temperature of the driver (measured in the middle of the board)		1/1000 °C	R			
TH_RES	Parameter for temperature calculation	Thermal conductivity to ambiance set to 0 to desactivate thermal calculation module Note: when the board is reset, temperature memory is lost even if the motor is still hot. A higher value gives a faster temperature reduction when motot is not powered	(see CALC_T and MAX_C_T) The thermal calculations integrates the thermal energy getting into the motor (with R_MOT and I_MOT or I_COIL) and the thermal energy getting out of the motor (using TH_RES), as well as the thermal inertia represented by TH_SLOP. The parameter R_MOT must be carefully setup accurding manufacturer datas. The TH_RES and TH_SLOP should be ajusted empirically, starting from catalog values specified by the manufacturer. The use of the oscilloscope function with long period sampeling is useful to compare the temperature calculation with measurements.	W/°C				
TH_SLOP	Parameter for temperature calculation	Thermal slope. A higher value gives a faster rizing temperature	(see CALC_T and MAX_C_T)	°C/(W min)				
TIME		Time in seconds since the last power-up		s	R			0
TIME_D1		Timer counting DOWN continuously, decrement 1 each millisecond and stops at 0		ms	RW			0
TIME_D2		Same as TIME_D1		ms	RW			0
TIME_U1		Timer counting UP continuously, increment 1 each millisecond, a negative value stops counting. Default value = -1		ms	RW			-1
TIME_U2		Same as TIME_U1		ms	RW			-1
TR_CHKI	Tracking error check	Trajectory generator tracking error checking vector. ATTENTION, if this value is not correctly set, the motor will only move on a small distance. Note: to disable this feature, set to POS_TAR	Use as vector TR_CHKI = "POS"					
TR_ER_M		Tracking error max (difference between the actuial position and calculated trajectory). The trajectory generator will not exceed this value. If this value is reached, the trajectory reduces the speed	0= automatic (do not exceed PID saturation)					
TRJ_RES	Trajectory resolution	This value is the resolution for the trajectroy generator. Normally it must be the same as the encoder resolution used for the positionning PID						
TRJ_TYP	Trajectory type	0: Voltage (only predictive module Feed Forward) 1: Speed with trapeze acceleration (controlled by JOG) 2: Positionning trapeze (controlled by TARGET)						

Var.. name	*Description summary*	*Detailed description*	*Speciality behaviour, additional note*	*Unit*	*R/W*	*min val*	*max val*	*Reset val*
V_LOG	Voltage measured on Logic supply	Not measured. Always 0		mV	R			
V_POW	Voltage measured on Power supply	Voltage present on power supply bus	(equivalent to V_IN in older boards)	mV				
V_RMP_O		Output value of the ramp generator. It is always connected to the amplifier.						
V_RMP_R		Voltage ramp of the amplifier. Useful in voltage mode, to allow a progressive voltage change. It can also be used as a low-pass filter in looped mode.	Amplifier voltage ramp A value of 1000000 desactivate the ramp and voltage is immediately applied	Unit: V/sec				
	Tinaxis Plus BL120 Additional registers	In order to provide maximum software compatibility between board models, additional registers are present but no action are related to them. They can be used as additional free user register but this is not recomended when compatibility with future models may be guaranted.						