



Elite Series System Variables  
Software Version 3.8

Variable Name (Must use the prefix System.)	Default Value	Minimum Value	Maximum Value	Modbus Address	Modbus Access	Variable Type	Base for Normalising
<b>SCREEN LIST VARIABLES</b>							
<b>Status Screen</b>							
Status Display	0	0	59	40089	ro	ub	
Status Overload	0	0	3	41090	ro	ub	
Status Var Type	0					ub	
Status Var	0					r	
Status Speed		BASE*-2.5	2.5*BASE			swpu	Synchronous RPM
Status Warning	0	0	15			ub	
Display Status 2nd Line	0	0	1	40331	rw	f	
<b>Screen Group A Status Displays</b>							
KB Speed/Torque	0	0	1	41042	rw	f	
KB Torque	0	BASE*-2.5	2.5*BASE	41041	rw	swpu	Motor Rated Torque
KB Speed	BASE	BASE*-2.5	2.5*BASE	40088	rw	swpu	Synchronous RPM
Ref Torque	0	BASE*-2.5	2.5*BASE	40162	rw	swpu	Motor Rated Torque
Ref Speed	1*BASE	BASE*-2.5	2.5*BASE	40161	rw	swpu	Synchronous RPM
Power Out				40098	ro	swpu	Motor Rated Power
O/P Speed		BASE*-2.5	2.5*BASE	40090	ro	swpu	Synchronous RPM
O/P Current				40093	ro	uwpu	Drive Rated Current
Excitation Frequency		BASE*-2.5	2.5*BASE	40096	ro	swpu	Motor Rated Frequency
iu Current				40194	ro	uwpu	Drive Rated Current
iv Current				40195	ro	uwpu	Drive Rated Current
iw Current				40196	ro	uwpu	Drive Rated Current
Motor Temperature				40100	ro	uwpu	1
Inverter Temperature				40101	ro	uwpu	1
Heatsink Temperature	0	-50	100	40103	ro	sb	
Internal Temperature	0	-50	100	40104	ro	sb	
DC Bus Voltage				40092	ro	uwpu	Motor Rated Voltage *1.414
O/P Voltage				40099	ro	uwpu	Motor Rated Voltage
<b>Screen Group C Level Comparator</b>							
Comp 1 Select	2	0	18	41012	rw	ub	
Comp 1 On	1	-2.5	2.5	41010	rw	swpu	1
Comp 1 Off	0.9	-2.5	2.5	41011	rw	swpu	1
Comp 2 Select	2	0	18	41112	rw	ub	
Comp 2 On	1	-2.5	2.5	41110	rw	swpu	1
Comp 2 Off	0.9	-2.5	2.5	41111	rw	swpu	1
<b>Screen Group D Dynamic Brake Controls</b>							
DB Time	10	0	250	40020	rw	ub	
DB Duty	0	0	1	40021	rw	uwpu	1
<b>Screen Group F Fault History Screens</b>							
Fault State	0	0	72	40095	ro	ub	
Fault History 0	0	0	72			ub	
Fault History 1	0	0	72	40201	ro	ub	

Elite Series System Variables  
Software Version 3.8

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Fault History 2	3rd most recent fault in the fault history		u	e					
Fault History 3	4th most recent fault in the fault history		u	e					
Fault History 4	5th most recent fault in the fault history		u	e					
Fault History 5	6th most recent fault in the fault history		u	e					
Clear Fault History	Clears the fault history log	m							
<b>Screen Group H Serial Communications (Modbus Only)</b>									
Serial Comms Type	Selects the serial communication protocol	m	u	e					
Comms Timeout	Serial communication timeout period	m	u	*					
Comms Address	Modbus communication address	m	u	*					
Baud Rate	Selects the baud rate for serial communications	m	u	*					
Modbus Parity	Selects the parity for modbus communications	m	u	*					
<b>Screen Group I Inputs</b>									
Local Start Stop	Enables the keyboard Start / Stop / Reset functions	m	u	e					
Speed Ref Select	Speed reference source selection	m	u	e		s			
Torque Ref Select	Torque reference source selection	m	u	e		s			
Alt Speed Select	Alternative speed reference source selection	m	u	e		s			
Alt Torque Select	Alternative torque reference source selection	m	u	e		s			
Analogue I/P 1 Mode	Formats Analogue I/P 1 as Voltage or Current	m	u	e		s			
Analogue I/P 1 Lo	Analogue I/P 1, low scaling value	m	u	e					
Analogue I/P 1 Hi	Analogue I/P 1, high scaling value	m	u	e					
Analogue I/P 2 Mode	Formats Analogue I/P 2 as Voltage or Current	m	u	e		s			
Analogue I/P 2 Lo	Analogue I/P 2, low scaling value	m	u	e					
Analogue I/P 2 Hi	Analogue I/P 2, high scaling value	m	u	e					
Zero Band	Applies a zero band to Analogue I/P 1 & 2	m	u	e					
I/P Mode	Multi Function Input Mode selection	m	u	e		s			
I/P Polarity	Selects Active High or Active Low for digital inputs	m		e	c	s			
MFI 1 Select	Input mode selection for Multi Function Input 1	m	u	e		s			
MFI 2 Select	Input mode selection for Multi Function Input 2	m	u	e		s			
MFI 3 Select	Input mode selection for Multi Function Input 3	m	u	e		s			
MFI 4 Select	Input mode selection for Multi Function Input 4	m	u	e		s			
MFI 5 Select	Input mode selection for Multi Function Input 5	m	u	e		s			
MFI 6 Select	Input mode selection for Multi Function Input 6	m	u	e		s			
Fibre I/P Lo	Fibre input low scaling value	m	u	e					
Fibre I/P Hi	Fibre input high scaling value	m	u	e					
Fibre Mode	Fibre optic control mode selection	m	u	e		s			
Fibre Timeout	Fibre optic input timeout period	m	u	e					
<b>Screen Group L Limits</b>									
Min Speed Limit	Minimum speed limit	m	u	e					rpm
Max Speed Limit	Maximum speed limit	m	u	e					rpm
Min Torque Limit	Minimum torque limit	m	u	e					Nm
Max Torque Limit	Maximum torque limit	m	u	e					Nm
Speed Limit Timeout	Speed limit timeout period	m	u	e					
Torque Limit Timeout	Torque limit timeout period	m	u	e					
Regeneration Limit	Regeneration limit	m	u	e					W

Elite Series System Variables  
Software Version 3.8

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Fault History 2	0	0	72	40202	ro	ub	
Fault History 3	0	0	72	40203	ro	ub	
Fault History 4	0	0	72	40204	ro	ub	
Fault History 5	0	0	72	40205	ro	ub	
Clear Fault History	0	0	1	40200	rw	f	
<b>Screen Group H</b>	<b>Serial Communications (Modbus Only)</b>						
Serial Comms Type	1	0	1			ub	
Comms Timeout	3	0	3	40032	rw	ub	
Comms Address	10	1	240	40030	rw	ub	
Baud Rate	2	0	5	40031	rw	ub	
Modbus Parity	0	0	2	40034	rw	ub	
<b>Screen Group I</b>	<b>Inputs</b>						
Local Start Stop	3	0	3	40085	rw	ub	
Speed Ref Select	5	0	8	41014	rw	ub	
Torque Ref Select	0	0	8	41015	rw	ub	
Alt Speed Select	1	0	8	41016	rw	ub	
Alt Torque Select	0	0	8	41017	rw	ub	
Analogue I/P 1 Mode	0	0	3	40134	rw	ub	
Analogue I/P 1 Lo	0	-1	1	40125	rw	swpu	1
Analogue I/P 1 Hi	1	-1	1	40126	rw	swpu	1
Analogue I/P 2 Mode	0	0	3	40135	rw	ub	
Analogue I/P 2 Lo	0	-1	1	40127	rw	swpu	1
Analogue I/P 2 Hi	1	-1	1	40128	rw	swpu	1
Zero Band	0	0	1	40133	rw	f	
I/P Mode	0	0	5	41007	rw	ub	
I/P Polarity	1	0	1	40138	rw	f	
MFI 1 Select	0	0	19	41001	rw	ub	
MFI 2 Select	0	0	19	41002	rw	ub	
MFI 3 Select	0	0	19	41003	rw	ub	
MFI 4 Select	0	0	19	41004	rw	ub	
MFI 5 Select	0	0	19	41005	rw	ub	
MFI 6 Select	0	0	19	41006	rw	ub	
Fibre I/P Lo	-1	-1	1	40116	rw	swpu	1
Fibre I/P Hi	1	-1	1	40117	rw	swpu	1
Fibre Mode	0	0	5	40107	rw	ub	
Fibre Timeout	3	0	3	40113	rw	ub	
<b>Screen Group L</b>	<b>Limits</b>						
Min Speed Limit	BASE*-1.1	-2.5*BASE	2.5*BASE	40011	rw	swpu	Synchronous RPM
Max Speed Limit	BASE*1.1	-2.5*BASE	2.5*BASE	40012	rw	swpu	Synchronous RPM
Min Torque Limit	BASE*-1.5	-2.5*BASE	2.5*BASE	40014	rw	swpu	Motor Rated Torque
Max Torque Limit	BASE*1.5	-2.5*BASE	2.5*BASE	40015	rw	swpu	Motor Rated Torque
Speed Limit Timeout	26	0	26	40013	rw	uw	
Torque Limit Timeout	26	0	26	40016	rw	uw	
Regeneration Limit	1.5*BASE	0	2.5*BASE	40010	rw	uwpu	Motor Rated Power

Elite Series System Variables  
Software Version 3.8

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Current Limit	Current limit	m	u	e					A
Skip Speed 1	Skip speed number 1	m	u	e					rpm
Skip Speed 2	Skip speed number 2	m	u	e					rpm
Skip Bandwidth	Skip speed bandwidth	m	u	e					rpm
Ground Current Limit	Ground Current Trip Level	m	u	e					A
Stop on Min Speed	Drive stops when speed hits min speed (Drive state =RDY)	m	u	e					
<b>Screen Group M</b>	<b>Multi-Reference Setpoints</b>								
Multi Reference 1	Multi reference setpoint 1	m	u	e					
Multi Reference 2	Multi reference setpoint 2	m	u	e					
Multi Reference 3	Multi reference setpoint 3	m	u	e					
Multi Reference 4	Multi reference setpoint 4	m	u	e					
Multi Reference 5	Multi reference setpoint 5	m	u	e					
Multi Reference 6	Multi reference setpoint 6	m	u	e					
Multi Reference 7	Multi reference setpoint 7	m	u	e					
<b>Screen Group N</b>	<b>Motor Nameplate Data</b>								
Motor Current	Nameplate (rated) motor current	m	m	e					A
Motor Volts	Nameplate (rated) motor voltage	m	m	e					V
Motor Frequency	Nameplate (rated) motor frequency	m	m	e					Hz
Motor Power	Nameplate (rated) motor power	m	m	e					W
Motor Speed	Nameplate (rated) motor speed	m	m	e					rpm
Motor Cooling	Estimated motor cooling at zero speed	m	m	e					
Encoder PPR	Encoder pulses per rotor revolution	m	m	e					
Encoder Type	Selects Encoder I/P mode (Diff/Single)	m	m	e		s			
<b>Screen Group O</b>	<b>Outputs</b>								
Analogue O/P 1 Sel	Analogue O/P 1 source selection	m	u	e					
Analogue O/P 1 Mode	Formats Analogue O/P 1 as Voltage or Current	m	u	e		s			
Analogue O/P 1 Lo	Analogue O/P 1, low scaling value	m	u	e					
Analogue O/P 1 Hi	Analogue O/P 1, high scaling value	m	u	e					
Analogue O/P 2 Sel	Analogue O/P 2 source selection	m	u	e					
Analogue O/P 2 Mode	Formats Analogue O/P 2 as Voltage or Current	m	u	e		s			
Analogue O/P 2 Lo	Analogue O/P 2, low scaling value	m	u	e					
Analogue O/P 2 Hi	Analogue O/P 2, high scaling value	m	u	e					
Relay 1 Select	Relay 1 source selection	m	u	e					
Relay 1 Invert	Inverts Relay 1 logic	m	u	e					
Relay 2 Select	Relay 2 source selection	m	u	e					
Relay 2 Invert	Inverts Relay 2 logic	m	u	e					
Relay 3 Select	Relay 2 source selection	m	u	e					
Relay 3 Invert	Inverts Relay 2 logic	m	u	e					
Fibre O/P Select	Fibre O/P source selection	m	u	e					
<b>Screen Group P</b>	<b>Process Control</b>								
Process Ref Select	Process control setpoint source selection	m	u	e					
Process Fb Select	Process control feedback source selection	m	u	e					
Process Kc	Controller Gain (Kc)	m	u	e					

Elite Series System Variables  
Software Version 3.8

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Current Limit	1.2*BASE	0.25*BASE	1.5*BASE	40018	rw	uwpu	Drive Rated Current
Skip Speed 1	0	-2.5*BASE	2.5*BASE	40190	rw	swpu	Synchronous RPM
Skip Speed 2	0	-2.5*BASE	2.5*BASE	40191	rw	swpu	Synchronous RPM
Skip Bandwidth	0	0	0.2*BASE	40192	rw	uwpu	Synchronous RPM
Ground Current Limit	0.3*Base	0	1.0*Base	40025	rw	uwpu	Drive Rated Current
Stop on Min Speed	0			40049	rw	f	
<b>Screen Group M</b>	<b>Multi-Reference Setpoints</b>						
Multi Reference 1	0	-4.0*BASE	4.0*BASE	41020	rw	swpu	1
Multi Reference 2	0	-4.0*BASE	4.0*BASE	41021	rw	swpu	1
Multi Reference 3	0	-4.0*BASE	4.0*BASE	41022	rw	swpu	1
Multi Reference 4	0	-4.0*BASE	4.0*BASE	41023	rw	swpu	1
Multi Reference 5	0	-4.0*BASE	4.0*BASE	41024	rw	swpu	1
Multi Reference 6	0	-4.0*BASE	4.0*BASE	41025	rw	swpu	1
Multi Reference 7	0	-4.0*BASE	4.0*BASE	41026	rw	swpu	1
<b>Screen Group N</b>	<b>Motor Nameplate Data</b>						
Motor Current	BASE	0.2*BASE	1.5*BASE	40001	rw	uwpu	Drive Rated Current
Motor Volts	400	0	999	40002	rw	uw	
Motor Frequency	50	0	400	40003	rw	uw	
Motor Power	0	0	650000	40004	rw	uw	
Motor Speed	0	0	24000	40006	rw	uw	
Motor Cooling	0.4	0.2	1.01	40005	rw	uwpu	1
Encoder PPR	0	0	8191	40007	rw	uw	
Encoder Type	0	0	1	40139	rw	f	
<b>Screen Group O</b>	<b>Outputs</b>						
Analogue O/P 1 Sel	6	0	19	41033	rw	ub	
Analogue O/P 1 Mode	1	0	3	40136	rw	ub	
Analogue O/P 1 Lo	-1	-2.5	2.5	40129	rw	swpu	1
Analogue O/P 1 Hi	1	-2.5	2.5	40130	rw	swpu	1
Analogue O/P 2 Sel	2	0	19	41034	rw	ub	
Analogue O/P 2 Mode	1	0	3	40137	rw	ub	
Analogue O/P 2 Lo	-1	-2.5	2.5	40131	rw	swpu	1
Analogue O/P 2 Hi	1	-2.5	2.5	40132	rw	swpu	1
Relay 1 Select	2	0	23	41027	rw	ub	
Relay 1 Invert	0	0	1	41030	rw	f	
Relay 2 Select	5	0	23	41028	rw	ub	
Relay 2 Invert	0	0	1	41031	rw	f	
Relay 3 Select	8	0	23	41029	rw	ub	
Relay 3 Invert	0	0	1	41032	rw	f	
Fibre O/P Select	6	0	19	41039	rw	ub	
<b>Screen Group P</b>	<b>Process Control</b>						
Process Ref Select	0	0	7	40224	rw	ub	
Process Fb Select	0	0	4	40225	rw	ub	
Process Kc	0.001	0.001	0.2	40226	rw	uw	



Elite Series System Variables  
Software Version 3.8

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Process Ti	1001	0.1	1001	40227	rw	uw	
Process Td	0	0	250	40228	rw	uw	
Process Error		-4	4	40220	ro	swpu	1
Inv Process Kc	0			40229	rw	f	
<b>Screen Group R</b>	<b>Accel / Decel Rates</b>						
Accel Rate	0.1	0.0002	13	41043	rw	uw	
Decel Rate	0.1	0.0002	13	41044	rw	uw	
Alt Accel Rate	0.1	0.0002	13	41045	rw	uw	
Alt Decel Rate	0.1	0.0002	13	41046	rw	uw	
Break Speed	0	0	2.5*BASE	41047	rw	swpu	Synchronous RPM
Stop Decel Rate	13	0.0002	13	40042	rw	uw	
Speed Filter Time	0	0	60	40043	rw	uw	
Torque Filter Time	0	0	10	40044	rw	uw	
<b>Screen Group S</b>	<b>Start and Stop Modes</b>						
Ref Start Mode	0	0	1	40057	rw	ub	
Stop Mode	0	0	5	41048	rw	ub	
Alt Stop Mode	0	0	5	41049	rw	ub	
Start Delay Time	0	0	5	40051	rw	uw	
Off Delay Time	1	0	3600	40050	rw	uw	
Low Voltage Trip	0	0	1	40053	rw	f	
DC Brake Level	0	0	1.5*BASE	40056	rw	uwpu	Motor Rated Current
DC Hold Level	0	0	0.25*BASE	40058	rw	uwpu	Motor Rated Voltage
DC Heat Level	0	0	0.30*BASE	40059	rw	uwpu	Motor Rated Current
Stop Timeout Time	0	0	3600	40054	rw	uw	
<b>Screen Group X</b>	<b>Tuning</b>						
Control Type	2	0	2	41091	rw	ub	
Autotune	0	0	1	40008	rw	f	
Autotune Status	0	0	9			ub	
Lm	1.9*BASE	0.4*BASE	8*BASE	40061	rw	uwpu	{{(Motor Volts) <sup>2</sup> / Motor Power}}
Rs	0.03*BASE	0	0.15*BASE	40062	rw	uwpu	{{(Motor Volts) <sup>2</sup> / Motor Power}}
Rr	0.03*BASE	0	0.15*BASE	40063	rw	uwpu	{{(Motor Volts) <sup>2</sup> / Motor Power}}
Sigma	0.06	0	0.2	40064	rw	uwpu	1
Field Weaken	1	0.5	1	40060	rw	uwpu	1
Min Flux Level	1	0.4	1	40210	rw	uwpu	1
Boost Type	1	0	2	40211	rw	ub	
Start Torque	0	0	2.5	40017	rw	swpu	1
Start Band	0.1	0	1	40019	rw	uwpu	1
Kp w	0.2	0	3	40070	rw	uwpu	1
Ki w	0.3	0	9.99	40068	rw	uw	
Kd w	0	0	9.99	40069	rw	uw	
Flux boost Low	0	0	0.99*Base	40023	rw	uwpu	1
Flux boost High	0	0	0.99*Base	40024	rw	uwpu	1
Inertia	1	1	10	40074	rw	ub	
Current Limit Slip	0.02	0	0.11	40212	rw	uwpu	1



Elite Series System Variables  
Software Version 3.8

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Voltage Limit Slip	Voltage limit slip value	m	m	e					
Damping	No load damping factor for V/Hz	m	m	e					
Slip Comp enable	Enables the V/Hz slip compensation	m	m	e					
Switching Frequency	Sets the modulation frequency of the of the output voltage	m	m	e					
Whisperwave	Enables whisper wave type modulation	m	m	e					
Kp I	Current control PI Gain	m	m	e					
Ki I	Current control PI Integral gain	m	m	e					
Kf w	Rotor speed filter constant	m	m	e					
<b>Screen Group Y</b>									
<b>Menu Options</b>									
Screen List	The current screen list language being displayed	m		e					
Initialise	Selects the initialisation of user or motor parameters	m			c	s			
Program	Selects Vysta program to be used. Program 1 = Not Vysta	m		e	c	s			
Number of Programs	Displays the number of Vysta programs loaded								
<b>Screen Group Z</b>									
<b>Commissioning Screens</b>									
Commission Mode	Indicates if drive is in commission mode	m		e					
Commission Password	The password to enter commission mode	m	u	*	c				
Software Version	The software version of the Elite System Code								
Hardware Version	The hardware version stored in EPLD								
Serial Number	The control board s/n entered by the factory			*					
A I/P 1 Display	Status of analogue I/P 1 (in %)		u						
A I/P 1 Actual Disp	Status of analogue I/P 1 (in engineering units)		u						
A I/P 2 Display	Status of analogue I/P 2 (in %)		u						
A I/P 2 Actual Disp	Status of analogue I/P 2 (in engineering units)		u						
A O/P 1 Display	Status of analogue O/P 1 (in %)		u						
A O/P 1 Actual Disp	Status of analogue O/P 1 (in engineering units)		u						
A O/P 2 Display	Status of analogue O/P 2 (in %)		u						
A O/P 2 Actual Disp	Status of analogue O/P 2 (in engineering units)		u						
Multifunction I/P 1	Status of multi function input 1								
Multifunction I/P 2	Status of multi function input 2								
Multifunction I/P 3	Status of multi function input 3								
Multifunction I/P 4	Status of multi function input 4								
Multifunction I/P 5	Status of multi function input 5								
Multifunction I/P 6	Status of multi function input 6								
External Trip	Status of multi function input 7 // external trip								
Fibre Active	Status of the fibre optic input								
Comms Active	Status of the serial input								
Tacho Count	Encoder counter that wraps around at 16383 counts								
Relay 1	Status of relay output 1								
Relay 2	Status of relay output 2								
Relay 3	Status of relay output 3								
DB Active	Status of dynamic brake output								
Fibre I/P	Status of fibre optic analogue input								
Fibre O/P	Status of fibre optic analogue output								

Elite Series System Variables  
Software Version 3.8

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Voltage Limit Slip	0.02	0	0.2	40213	rw	uwpu	1
Damping	0.02	0	0.2	40214	rw	uwpu	1
Slip Comp enable				40215	rw	f	
Switching Frequency	3999	3999	16000	40073	rw	uw	
Whisperwave	1	0	1	40072	rw	f	
Kp I	0.25	0	1	40066	rw	uwpu	1
Ki I	0.13	0	1	40067	rw	uwpu	1
Kf w	0.5	0.03	1	40071	rw	uwpu	1
<b>Screen Group Y</b>		<b>Menu Options</b>					
Screen List	0	0	255	40150	rw	ub	
Initialise	0	0	3	40079	rw	ub	
Program	1	0	255	40151	rw	ub	
Number of Programs	0	0	255	40152	ro	ub	
<b>Screen Group Z</b>		<b>Commissioning Screens</b>					
Commission Mode	1	0	1			f	
Commission Password	0	0	65535			uw	
Software Version	S/W Version			40140	ro	ub	
Hardware Version				40141	ro	ub	
Serial Number						ul	
A I/P 1 Display	0	0	99			ub	
A I/P 1 Actual Disp	0	-20	20			sw	
A I/P 2 Display	0	0	99			ub	
A I/P 2 Actual Disp	0	-20	20			sw	
A O/P 1 Display	0	0	99			ub	
A O/P 1 Actual Disp	0	-20	20			sw	
A O/P 2 Display	0	0	99			ub	
A O/P 2 Actual Disp	0	-20	20			sw	
Multifunction I/P 1				40170	ro	f	
Multifunction I/P 2				40171	ro	f	
Multifunction I/P 3				40172	ro	f	
Multifunction I/P 4				40173	ro	f	
Multifunction I/P 5				40174	ro	f	
Multifunction I/P 6				40175	ro	f	
External Trip				40176	ro	f	
Fibre Active						f	
Comms Active						f	
Tacho Count	0	0	16383			uw	
Relay 1						f	
Relay 2						f	
Relay 3						f	
DB Active						f	
Fibre I/P				40114	ro	swpu	1
Fibre O/P						swpu	1

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<b>ADDITIONAL VARIABLES</b>									
<b>System Variables available to Vysta via the PDL Standard Function Block</b>									
Ref Stop Mode	Stopping mode set in Vysta (refer to Main Engine)	m	u	e					
Ref Accel Rate	Acceleration rate set in Vysta (refer to Accel Rate Set)	m	u	e					
Ref Decel Rate	Deceleration rate set in Vysta (refer to Accel Rate Set)	m	u	e					
Ref Speed/Torque	Control mode set in Vysta (refer to Control Mode Set)	m	u	e					
<b>Fault and Status Flags for Relay Outputs</b>									
No Fault	Indicates no fault present (F00)								
Fault	Set if fault exists in drive (F03)								
Supply Fault	Indicates a supply fault (F04)								
Overload Fault	Indicates a temperature overload (F15 & F16)								
Overload Warning	Indicates a temperature warning								
Drive Started	Indicates drive has start condition								
Drive Running	Indicates drive is running (Status Not OFF)								
At Zero Speed	Indicates motor at zero speed ±1%								
At Set Speed	Indicates steady rotor speed								
Torque Sign	Sign of the motor torque								
Speed Sign	Sign of the motor speed								
Torque Ref Sign	Sign of the torque reference								
Speed Ref Sign	Sign of the speed reference								
Torque Limiting	Drive is operating at Torque Limit								
Voltage Limiting	Drive is operating at Voltage Limit								
Current Limiting	Drive is operating at Current Limit								
Comp 1 Out	Comparator 1 output								
Comp 2 Out	Comparator 2 output								
Window Comp	Comparator window output								
Brake Release	Crane brake function								
<b>System Flags</b>									
Run	Run command from VYSTA	m							
Trip	Trip command from VYSTA (F34)	m							
Host Start	Start from modbus	m							
Host Stop	Stop from modbus	m							
Host Trip	Trip from modbus	m							
Host Reset	Reset from modbus	m							
Enable Torque Limits	Enables torque limits in V/Hz mode	m	u	e					
Disable Serial Writes	Disables Serial comms writing (for Local / Remote control)	m	u						
Process Enable	Enables standard PID	m							
Fibre Enable	Enables fibre optic processor (refer to PDL Standard Program)	m							
Display Radix	Selects the character to display for a decimal point (. or ,)	m							
Drive Enabled	Set by Start / Stop to enable/disable transistors								
Speed/Torque Mode	Control mode the drive is currently using (only in C/L Vector)								
At Stop Rate	Indicates Stop Deceleration Rate (STOPR) is being used								
Inverter Overload	Inverter overload flag								

Elite Series System Variables  
Software Version 3.8

Variable Name (Must use the prefix System.)	Default Value	Minimum Value	Maximum Value	Modbus Address	Modbus Access	Variable Type	Base for Normalising
<b>ADDITIONAL VARIABLES</b>							
<b>System Variables available to Vysta via the PDL Standard Function Block</b>							
Ref Stop Mode	0	0	5	40052	rw	ub	
Ref Accel Rate	0.1	0.0002	13	40040	rw	uw	
Ref Decel Rate	0.1	0.0002	13	40041	rw	uw	
Ref Speed/Torque	0	0	1	40084	rw	f	
<b>Fault and Status Flags for Relay Outputs</b>							
No Fault						f	
Fault						f	
Supply Fault						f	
Overload Fault						f	
Overload Warning						f	
Drive Started						f	
Drive Running						f	
At Zero Speed						f	
At Set Speed						f	
Torque Sign						f	
Speed Sign						f	
Torque Ref Sign						f	
Speed Ref Sign						f	
Torque Limiting						f	
Voltage Limiting						f	
Current Limiting						f	
Comp 1 Out				41013	ro	f	
Comp 2 Out				41113	ro	f	
Window Comp				41114	ro	f	
Brake Release						f	
<b>System Flags</b>							
Run				40183	rw	f	
Trip						f	
Host Start				40082	rw	f	
Host Stop				40081	rw	f	
Host Trip	0	0	1	40083	rw	f	
Host Reset				40080	rw	f	
Enable Torque Limits				40022	rw	f	
Disable Serial Writes	0			40033	rw	f	
Process Enable				40221	ro	f	
Fibre Enable	1	0	1	40106	rw	f	
Display Radix	46	0	255			ub	
Drive Enabled						f	
Speed/Torque Mode	0	0	1			f	
At Stop Rate						f	
Inverter Overload						f	

Elite Series System Variables  
Software Version 3.8

Variable Name (Must use the prefix System.)	Comment	Modifiable	Parameter Type	Saved to EEPROM	Commission Mode	Stop to Modify	Fault Freeze	Status (filtered)	Denormalised Units
Motor Overload	Motor overload flag								
Low Bus Volts	Set/cleared when Bus volts are low for more than 2 sec								
<b>System Status</b>									
Initialise Max	Maximum value user can select for the initialisation option								
Display Timeout	Indicates no display comms for 5 seconds								
Drive State	Current drive state								
Speed Limiting	Indicates whether speed limiting at Minimum or Maximum								
Block Error	Used to indicate a Vysta block error (overflow, divide by 0, etc)								
Multi Ref Select	Indicates which Multi Reference is presently selected								
<b>System Analogues</b>									
Motorised Pot Speed	Motorised pot output								rpm
Motorised Pot Torque	Motorised pot output								Nm
O/P Torque	O/P torque						F	S	Nm
Encoder Speed	Encoder speed - active in V/Hz if encoder is fitted								rpm
Command Speed	Speed Reference as applied to the drive output, includes accel								rpm
Actual Accel Rate	Actual acceleration rate currently applied								
Process Reference	Process setpoint (reference) signal								
Process Feedback	Process feedback signal								
DB Temperature	Modelled dynamic brake resistor temperature								
Vista Speed	Indicates current Vysta processing speed, normally 100%								
Vista 1	Spare System Variable available for Vysta use	m	u	e					
Vista 2	Spare System Variable available for Vysta use	m	u	e					
Vista 3	Spare System Variable available for Vysta use	m	u	e					
Vista 4	Spare System Variable available for Vysta use	m	u	e					
Vista 5	Spare System Variable available for Vysta use	m	u	e					
Vista 6	Spare System Variable available for Vysta use	m	u	e					
Vista 7	Spare System Variable available for Vysta use	m	u	e					
Vista 8	Spare System Variable available for Vysta use	m	u	e					
Vista 9	Spare System Variable available for Vysta use	m	u	e					
Vista 10	Spare System Variable available for Vysta use	m	u	e					
Vista 11	Spare System Variable available for Vysta use	m	u	e					
Vista 12	Spare System Variable available for Vysta use	m	u	e					
Vista 13	Spare System Variable available for Vysta use	m	u	e					
Vista 14	Spare System Variable available for Vysta use	m	u	e					
Vista 15	Spare System Variable available for Vysta use	m	u	e					
Vista 16	Spare System Variable available for Vysta use	m	u	e					
Vista 17	Spare System Variable available for Vysta use	m	u	e					
Vista 18	Spare System Variable available for Vysta use	m	u	e					
Vista 19	Spare System Variable available for Vysta use	m	u	e					
Vista 20	Spare System Variable available for Vysta use	m	u	e					
Vista 21	Spare System Variable available for Vysta use	m	u	e					
Vista 22	Spare System Variable available for Vysta use	m	u	e					
Vista 23	Spare System Variable available for Vysta use	m	u	e					
Vista 24	Spare System Variable available for Vysta use	m	u	e					
Vista 25	Spare System Variable available for Vysta use	m	u	e					

Elite Series System Variables  
Software Version 3.8

Variable Name (Must use the prefix System.)	Default Value	Minimum Value	Maximum Value	Modbus Address	Modbus Access	Variable Type	Base for Normalising
Motor Overload						f	
Low Bus Volts	0	0	1			f	
<b>System Status</b>							
Initialise Max	2	2	3			ub	
Display Timeout						f	
Drive State	0	0	15			ub	
Speed Limiting	0	0	2			ub	
Block Error	0	0	255	40153	ro	ub	
Multi Ref Select		0	7	41019	ro	ub	
<b>System Analogues</b>							
Motorised Pot Speed		-2.5*BASE	2.5*BASE	41062	ro	swpu	Synchronous RPM
Motorised Pot Torque		-2.5*BASE	2.5*BASE	41063	ro	swpu	Motor Rated Torque
O/P Torque		-2.5*BASE	2.5*BASE	40091	ro	swpu	Motor Rated Torque
Encoder Speed		-2.5*BASE	2.5*BASE	40094	ro	swpu	Synchronous RPM
Command Speed		-2.5*BASE	2.5*BASE	40163	ro	swpu	Synchronous RPM
Actual Accel Rate		0.0002	13			sl	
Process Reference				40222	ro	swpu	1
Process Feedback				40223	ro	swpu	1
DB Temperature				40102	ro	uw	
Vista Speed		0	1	40154	ro	swpu	1
Vista 1	0	-32768	32767	40301	rw	sw	
Vista 2	0	-32768	32767	40302	rw	sw	
Vista 3	0	-32768	32767	40303	rw	sw	
Vista 4	0	-32768	32767	40304	rw	sw	
Vista 5	0	-32768	32767	40305	rw	sw	
Vista 6	0	-32768	32767	40306	rw	sw	
Vista 7	0	-32768	32767	40307	rw	sw	
Vista 8	0	-32768	32767	40308	rw	sw	
Vista 9	0	-32768	32767	40309	rw	sw	
Vista 10	0	-32768	32767	40310	rw	sw	
Vista 11	0	-32768	32767	40311	rw	sw	
Vista 12	0	-32768	32767	40312	rw	sw	
Vista 13	0	-32768	32767	40313	rw	sw	
Vista 14	0	-32768	32767	40314	rw	sw	
Vista 15	0	-32768	32767	40315	rw	sw	
Vista 16	0	-32768	32767	40316	rw	sw	
Vista 17	0	-32768	32767	40317	rw	sw	
Vista 18	0	-32768	32767	40318	rw	sw	
Vista 19	0	-32768	32767	40319	rw	sw	
Vista 20	0	-32768	32767	40320	rw	sw	
Vista 21	0	-32768	32767	40321	rw	sw	
Vista 22	0	-32768	32767	40322	rw	sw	
Vista 23	0	-32768	32767	40323	rw	sw	
Vista 24	0	-32768	32767	40324	rw	sw	
Vista 25	0	-32768	32767	40325	rw	sw	

Elite Series System Variables  
Software Version 3.8

Variable Name (Must use the prefix System.)	Comment	Modifiable	Parameter Type	Saved to EEPROM	Commission Mode	Stop to Modify	Fault Freeze	Status (filtered)	Denormalised Units
Vista 26	Spare System Variable available for Vysta use	m	u	e					
Vista 27	Spare System Variable available for Vysta use	m	u	e					
Vista 28	Spare System Variable available for Vysta use	m	u	e					
Vista 29	Spare System Variable available for Vysta use	m	u	e					
Vista 30	Spare System Variable available for Vysta use	m	u	e					
<b>System Analogue I/Os</b>									
Analogue I/P 1	Scaled analogue I/P 1								
Analogue I/P 2	Scaled analogue I/P 2								
Analogue I/P 1+2	Scaled analogue I/Ps 1 and 2 summed								
Analogue O/P 1	Scaled analogue O/P1 can be set from Vysta								
Analogue O/P 2	Scaled analogue O/P2 can be set from Vysta								
Analogue I/P 1 Pin	Analogue input 1 scaled to +/- 1pu								
Analogue I/P 2 Pin	Analogue input 2 scaled to +/- 1pu								
Analogue O/P 1 Pin	Analogue output 1 scaled to +/- 1pu								
Analogue O/P 2 Pin	Analogue output 2 scaled to +/- 1pu								
Fibre I/P Pin	Contains value received over fibre optic link								
Fibre O/P Pin	Contains value to be transmitted over fibre optic link								
<b>Hours Run and related Variables</b>									
capacitor life	Capacitor lifetime rated life (30000hrs = 8192)			*					
capacitor life lsw	Capacitor lifetime rated life Lower bits			*					
hours on	Hours switched on			*					
seconds on	Seconds switched on (up to 3599)			*					
hours run	Hours run			*					
seconds run	Seconds run (up to 3599)			*					
Energy Meter	kWh meter			*					
<b>System Constants</b>									
Pole Pairs	Motor pole pairs								
Motor Radians	Factor to convert position (100%s) to motor radians (rads)								
Drive ID	Drive ID : High Byte 4 = Elite, Low Byte 0..19 = 2.5A..660A								
Tr	Rotor time constant -calculated from Xm, Rr, sigma								
Max Switching F	Limit of PWM frequency								
Inverter Voltage	Rated Drive Voltage								
Inverter Current	Rated Drive Current								A
I/P Polarity Min	Used to lock input polarity if not in Local Mode	m							
I/P Polarity Max	Used to lock input polarity if not in Local Mode	m							
Rated current	Inverter rated current								
NOTE: * denotes EEPROM memory not altered during system code upgrade									

Elite Series System Variables  
Software Version 3.8

Variable Name (Must use the prefix System.)	Default Value	Minimum Value	Maximum Value	Modbus Address	Modbus Access	Variable Type	Base for Normalising
Vista 26	0	-32768	32767	40326	rw	sw	
Vista 27	0	-32768	32767	40327	rw	sw	
Vista 28	0	-32768	32767	40328	rw	sw	
Vista 29	0	-32768	32767	40329	rw	sw	
Vista 30	0	-32768	32767	40330	rw	sw	
<b>System Analogue I/Os</b>							
Analogue I/P 1		-2.5	2.5	40120	ro	swpu	1
Analogue I/P 2		-2.5	2.5	40121	ro	swpu	1
Analogue I/P 1+2		-2.5	2.5	40124	ro	swpu	1
Analogue O/P 1		-2.5	2.5	40122	ro	swpu	1
Analogue O/P 2		-2.5	2.5	40123	ro	swpu	1
Analogue I/P 1 Pin		-1	1			swpu	1
Analogue I/P 2 Pin		-1	1			swpu	1
Analogue O/P 1 Pin		-1	1			swpu	1
Analogue O/P 2 Pin		-1	1			swpu	1
Fibre I/P Pin	0	-4	4	40108	ro	sw	
Fibre O/P Pin	0	-4	4	40110	ro	sw	
<b>Hours Run and related Variables</b>							
capacitor life				40252	ro	uwpu	1
capacitor life lsw						ul	
hours on				40255	ro	uw	
seconds on				40256	ro	uw	
hours run				40257	ro	uw	
seconds run				40258	ro	uw	
Energy Meter				40250	ro	r	
<b>System Constants</b>							
Pole Pairs	0	0	10			uw	
Motor Radians						r	
Drive ID				40613	ro	uw	
Tr						uw	
Max Switching F	16000	4000	16000			uw	
Inverter Voltage				40230	ro	uw	
Inverter Current	1.0*BASE	1.0*BASE	1.0*BASE			uwpu	Drive Rated Current
I/P Polarity Min	0	0	1			f	
I/P Polarity Max	1	0	1			f	
Rated current				40231	ro	uw	