

DynaControl V6 EtherNet/IP Module

(Part No. 117381)

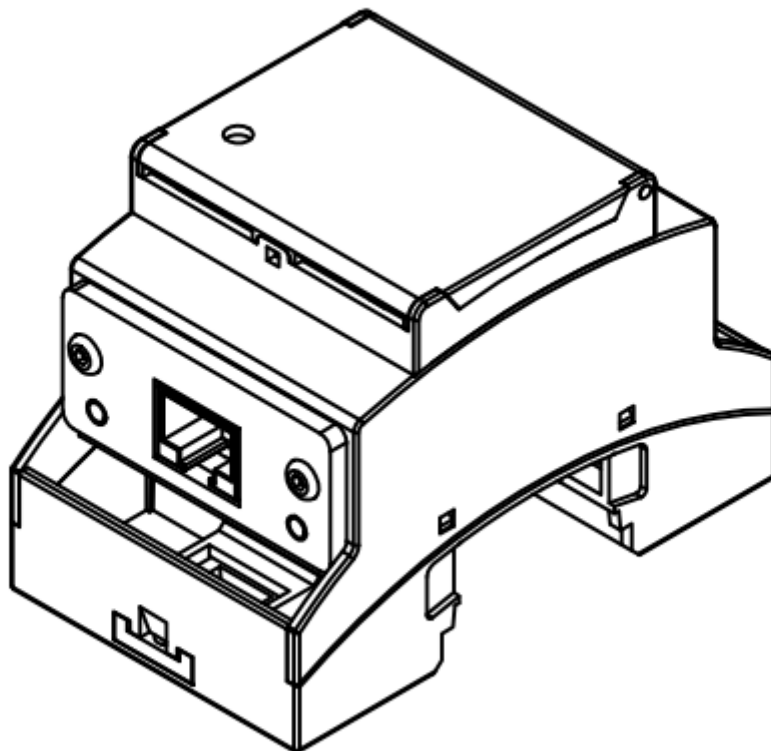


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System Description

Allows all DynaControl V6 based melters to be integrated into a main/parent control system via EtherNet/IP fieldbus control of the V6 melter. The EtherNet/IP compatible module is used in combination with an EtherNet/IP based master device, such as a ControlLogix PAC from Rockwell Automation™

Hardware Installation

The DynaControl V6 EtherNet/IP Module is attached to the DynaControl V6 Series modular system. No special module order is required and no hardware settings can be set on the module itself. The module has two standard RJ45 connectors to attach to the PLC fieldbus network (IN/OUT).

Software Installation

Please use the settings in the DynaControl Menu to select the EtherNet/IP address parameters (IP-Address, Netmask, Gateway) as needed.

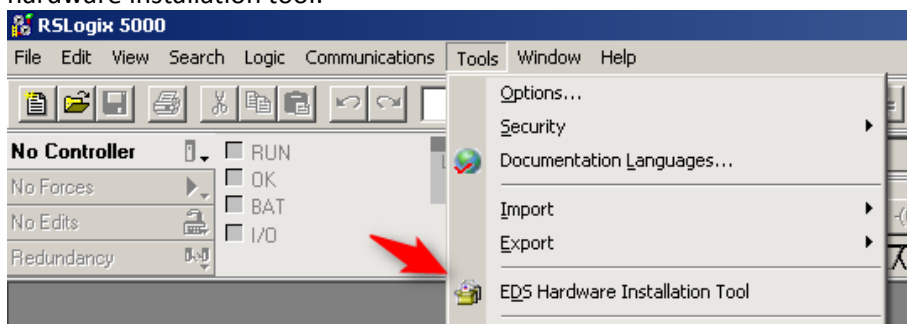
Please wait 1 minute after entering the new address and recycle main power for the new address to be accepted.

Refer to your DynaControl manual for further information where to find the menu entry as this is dependent on the equipped HMI.

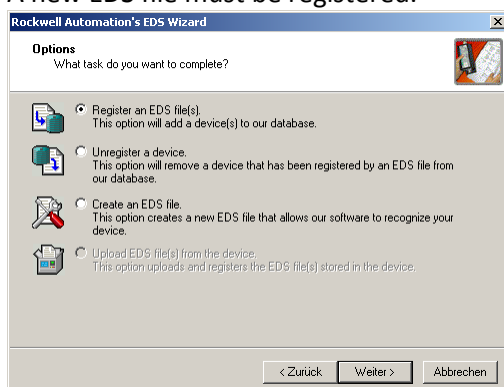
Setting up Communication

EtherNet / IP Configuration

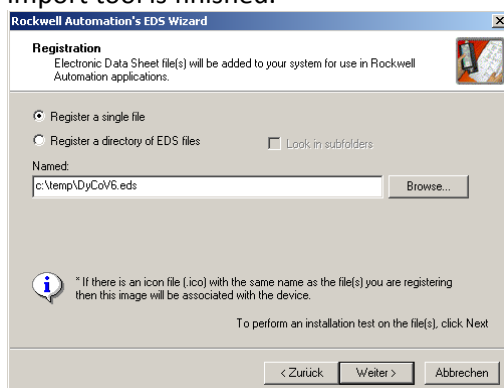
To use the DynaControl V6 EtherNet/IP module in your project, you can place a generic EtherNet/IP module or use the supplied EDS file configuration file **DyCoV6.eds** which must be imported into your PLC configuration (e.g. Rockwell RSLogix 5000 or Studio 5000). This is usually done using the EDS hardware installation tool:



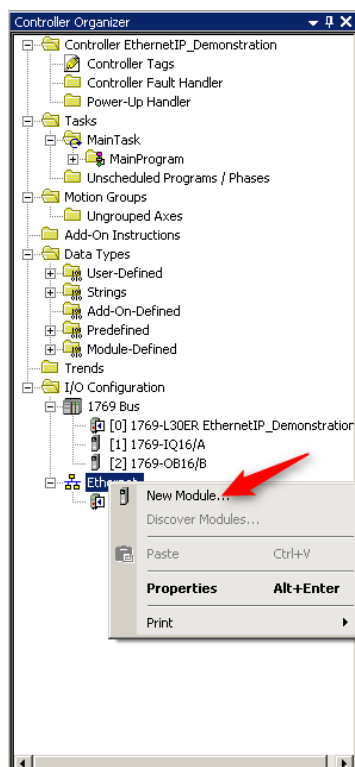
A new EDS file must be registered:



Please supply the name of the EDS file provided by ITW Dynatec and press “Continue” until the import tool is finished.

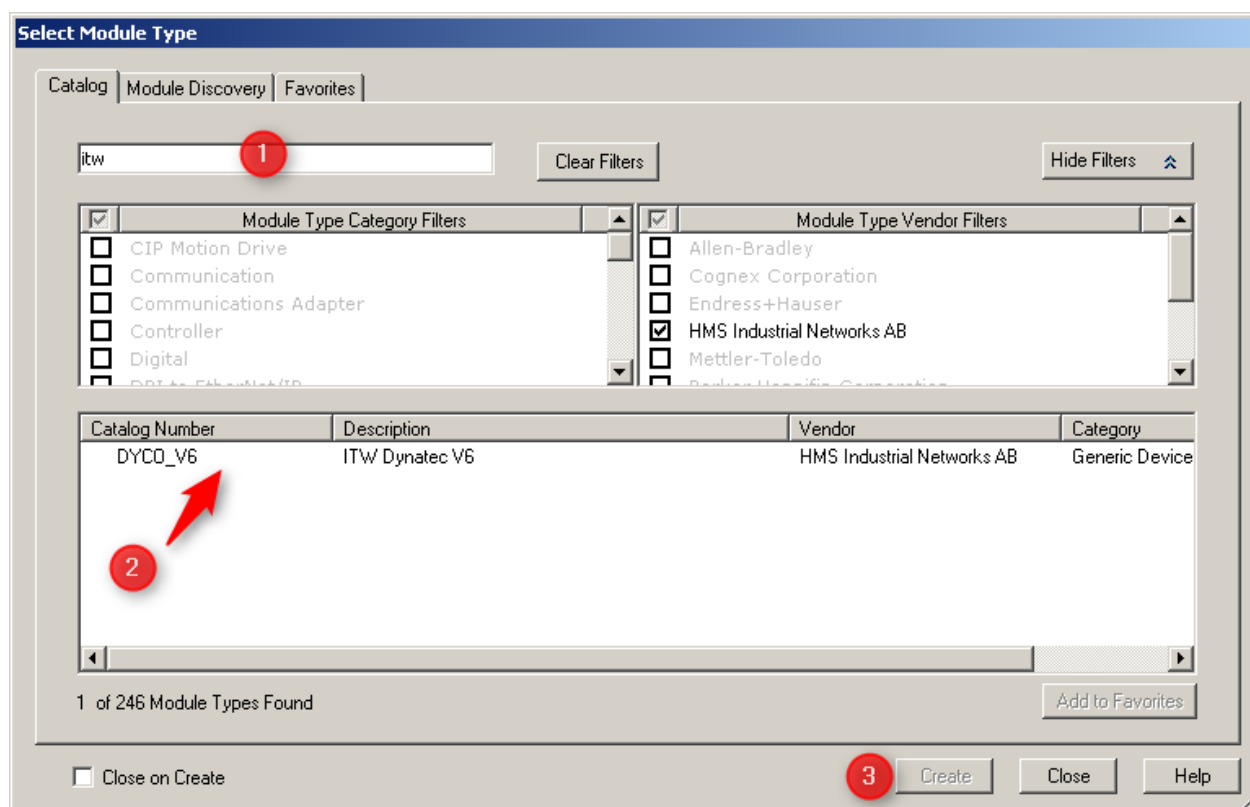


This procedure is depending on the PLC being used. See your PLC documentation for further information.



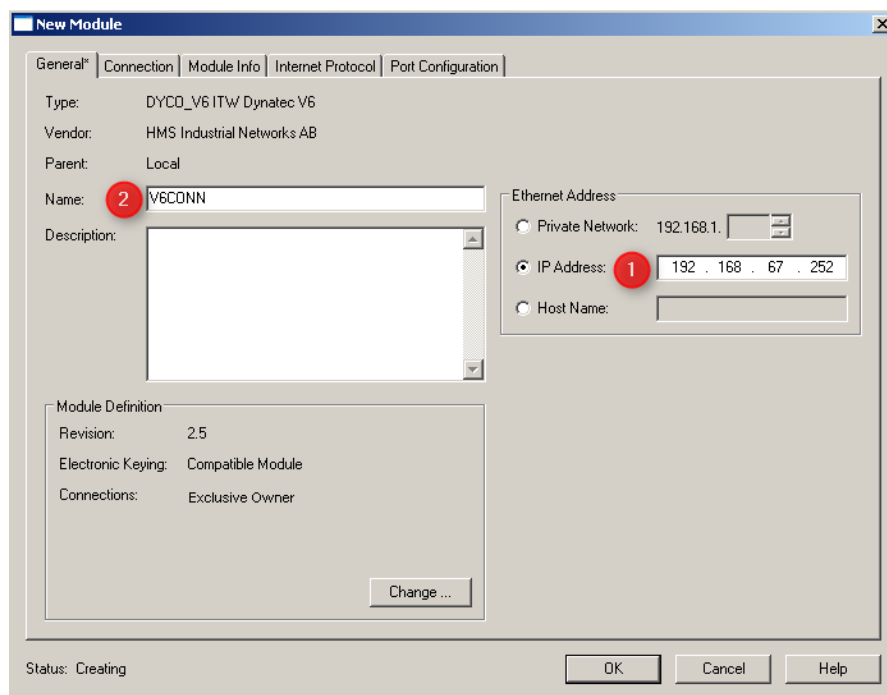
Now you can insert the DynaControl V6 EtherNet/IP module into your project. Right-Click under Ethernet and pick “New Module” from the list.

In the module list, start typing “itw” into the filter (1), select the DYCO_V6 module from the list below (2), click on “Create” (3) and close the menu.

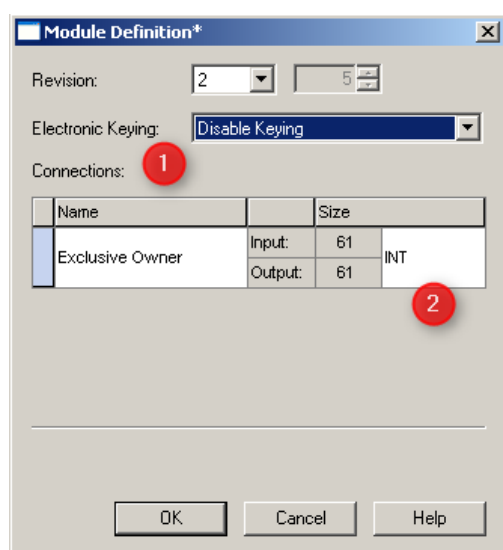


When the module is created, only a few parameters need to be set:

1. The IP-Address of the module. This is the same address that has been set inside the DynaControl configuration (see Software Installation on Page 6)
2. The Data Tag used for the communication. In this case it is V6CONN.



Depending on the version of the module itself, the electronic keying might must be disabled to match the ESD file configuration. Click on “Change” in the menu above and disable keying in this case (1). Please make also sure that you set the data format for the generated Tag List to INT (2) for better readability and the supplied PLC program to work properly.



ITW Dynatec supplies a well-documented demonstration file written for CompactLogix v20. Please refer to the demonstration PLC software for better understanding of the following data tables. If the

software does not match your type of PLC, ITW Dynatec also supplies the L5K file that can be modified to match your PLC.

Supplied inside the demonstration block you can find two user defined structures to simplify working with the data table. These UDTs are called **UDT_V6_IN** (data from DynaControl V6) and **UDT_V6_OUT** (data to DynaControl V6). The manual refers to the data inside these UDTs for better readability.

PLC Functionality

Received Data Block

The received data (from the DynaControl V6) has a length of 61 words (122 bytes). Inside the data block not all values might be used depending on the current system configuration. For example, if the level sensor is not equipped, the content of the level sensor status should be ignored.

Controller Tags - EthernetIP_Demonstration(controller)							
Scope: EthernetIP_Demo		Show: All Tags		Enter Name Filter...			
Name	Value	Force Mask	Style	Data Type	Description	Comment	
DyCo6_IN	{...}	{...}		UDT_V6_IN	Input Data from DynaControl V6		
DyCo6_IN.SPARE1	16#0000		Hex	INT	Input Data from DynaControl V6 Reserved		
DyCo6_IN.SPARE2	16#0000		Hex	INT	Input Data from DynaControl V6 Reserved		
DyCo6_IN.GLOBAL_SYSSTAT_WATCHDOG	2#0		Binary	BOOL	Input Data from DynaControl V6 Watchdog		
DyCo6_IN.GLOBAL_SYSSTAT_READY	2#1		Binary	BOOL	Input Data from DynaControl V6 System is Ready		
DyCo6_IN.GLOBAL_SYSSTAT_FAULT	2#0		Binary	BOOL	Input Data from DynaControl V6 System has a Fault		
DyCo6_IN.GLOBAL_SYSSTAT_ALARM	2#0		Binary	BOOL	Input Data from DynaControl V6 System is in Alarm State		
DyCo6_IN.GLOBAL_SYSSTAT_ON	2#1		Binary	BOOL	Input Data from DynaControl V6 System is On		
DyCo6_IN.GLOBAL_SYSSTAT_STANDBY	2#0		Binary	BOOL	Input Data from DynaControl V6 System is in Stand-By		
DyCo6_IN.GLOBAL_SYSSTAT_LOW	2#0		Binary	BOOL	Input Data from DynaControl V6 System has "Low Level"		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP1_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP2_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP3_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP4_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP5_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP6_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP7_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP8_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.GLOBAL_SYSSTAT_PUMP9_ON	2#0		Binary	BOOL	Input Data from DynaControl V6 Pump is On		
DyCo6_IN.SPARE3	16#0000		Hex	INT	Input Data from DynaControl V6 Reserved		
DyCo6_IN.GLOBAL_LINESPEED	3		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		
DyCo6_IN.ACT_PRESS1	554		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.ACT_PRESS2	-32768		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.ACT_PRESS3	-32768		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.ACT_PRESS4	-32768		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.ACT_PRESS5	-32768		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.ACT_PRESS6	577		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.ACT_PRESS7	-32768		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.ACT_PRESS8	-32768		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.ACT_PRESS9	-32768		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0bar / 0..1000psi		
DyCo6_IN.SPARE4	16#0000		Hex	INT	Input Data from DynaControl V6 Reserved		
DyCo6_IN.ACT_SPEED1	0		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		
DyCo6_IN.ACT_SPEED2	0		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		
DyCo6_IN.ACT_SPEED3	0		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		
DyCo6_IN.ACT_SPEED4	0		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		
DyCo6_IN.ACT_SPEED5	0		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		
DyCo6_IN.ACT_SPEED6	0		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		
DyCo6_IN.ACT_SPEED7	0		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		
DyCo6_IN.ACT_SPEED8	0		Decimal	INT	Input Data from DynaControl V6 0..1000 = 0..100.0%		

The first two words are reserved and should not be used.

They are reserved for other fieldbus protocols and exist for compatibility reasons.

Watchdog

Bit **DyCo6_IN.GLOBAL_SYSSTAT_WATCHDOG** is toggled from the DynaControl V6 every 0.5s. This can be evaluated in the PLC to guarantee a working field bus link. The same signal has also to be transferred back to the DynaControl V6 to allow monitoring of the other field bus direction (see page 28).

Status Bits

The bits **DyCo6_IN.GLOBAL_SYSSTAT_READY** to **DyCo6_IN.GLOBAL_SYSSTAT_LOW** show certain status from the DynaControl V6. A description of each is provided and is self-explanatory. A logical 1 of the Ready signal means that all zones of the system are heated up according to the set points and alarm windows, they all are above the “Global Release Temperature”, Standby mode is not enabled and the system is ready to run.

Pump Activity Bits

DyCo6_IN.GLOBAL_SYSSTAT_PUMPN_ON shows the current pump status. “TRUE” means that the pump is running, “FALSE” means it is not running.

Line Speed

DyCo6_IN.GLOBAL_LINESPEED holds the current global line speed value. This value is given in %x10 meaning that a maximum value of 1000 equals to 100.0% of main machine line speed. Please remember, that global line speed might be ignored for certain pumps if attached to a local analog input or remotely controlled via field bus.

Actual Pressure (Primary Pressure Transducers)

Every pump has a primary pressure transducer. **DyCo6_IN.ACT_PRESSn** holds the actual values of these pressure transducers. The unit can be either Bar (x10) or PSI depending on the unit setting inside the transmitted data block. If the unit is set to Bar, the value is 10x the actual value (1000 = 100.0 Bar). If the highest bit in the word is set (BIT15), the sensor is not responding (the sensor is 4-20mA, a value of <2mA triggers the FAULT bit).

Pump Speed

The pump speed of every motor can be read by getting the values in **DyCo6_IN.ACT_SPEEDn**. The value has a factor of 10, so 1000 means 100.0 rpm. If the system is equipped with no feedback, the variable will show the current actuator value supplied to the pump.

Last Successful Received Parameter Block

	DyCo6_IN.LAST_SUCC_WRITE_ID	128	Decimal	INT	Input Data from DynaControl V6 Last successful parameter Write UID
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The word **DyCo6_IN.LAST_SUCC_WRITE_ID** holds the UID of the last successful received parameter block. See page 31 for further details about custom write blocks.

Exchangeable Read Data Frame

	DyCo6_IN.READ_PARAM_BLK_TYPE	52	Decimal	INT	Input Data from DynaControl V6 Read Parameter Block Type #1
	DyCo6_IN.READ_PARAM_BLK_UID	0	Decimal	INT	Input Data from DynaControl V6 Read Parameter Block UID
	DyCo6_IN.READ_DATA	{...}	Decimal	INT[16]	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[0]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[1]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[2]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[3]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[4]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[5]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[6]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[7]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[8]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[9]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[10]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[11]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[12]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[13]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[14]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_DATA[15]	1	Decimal	INT	Input Data from DynaControl V6 Data from DynaControl V6
	DyCo6_IN.READ_PARAM_BLK_TYPE2	52	Decimal	INT	Input Data from DynaControl V6 Read Parameter Block Type #2

To support multiple information blocks inside the limited field bus size, an exchangeable data frame is transmitted. The data to be received is periodically exchanged (default) or defined by the PLC software.

If the words at **DyCo6_IN.PARAM_BLK_TYPE** and **DyCo6_IN.PARAM_BLK_TYPE2** are equal, they define the content of the 16 words **DyCo6_IN.READ_DATA[n]**. The PLC program must control the values to be copied into the destinations depending on the Read Block type desired. The following tables detail the data that can be read from the V6 based on the value of the Read Block type.

Exchangeable Read Block Types

The following exchangeable read block types are defined:

BLK Type	2
Read Parameter # 1	System Status ²
Read Parameter # 2	Global Error Word
Read Parameter # 3	Ready Progress (0..1000 = 0..100,0%)
Read Parameter # 4	Hour Counter LO-Word
Read Parameter # 5	Hour Counter HI-Word
Read Parameter # 6	Piston Pump 1 Stroke Counter LO-Word
Read Parameter # 7	Piston Pump 1 Stroke Counter HI-Word
Read Parameter # 8	Status Digital Inputs/Outputs ³
Read Parameter # 9	Level Sensor Fill Level (0..1000=0..100,0%)
Read Parameter # 10	Extended System Status ⁴
Read Parameter # 11	
Read Parameter # 12	
Read Parameter # 13	
Read Parameter # 14	
Read Parameter # 15	
Read Parameter # 16	

² System Status in Binary Encoded:

BIT0: System On
 BIT1: System Standby
 BIT2: System Sleep
 BIT3: System Alarm
 BIT4: System Fault
 BIT5: System Ready
 BIT6: System Warning
 BIT7: System Overtemperature
 BIT8: Hopper Empty
 BIT9: Global Error Message Present
 BIT13: System in Remote Mode (Fieldbus)
 BIT15: System waiting for Alarm Acknowledge

³ Status Digital In/Out

<- BIT0: IN1
 <- BIT1: IN2
 <- BIT2: IN3
 <- BIT3: IN4
 <- BIT4: IN5
 <- BIT5: IN6
 <- BIT6: MOTFAIL
 <- BIT7: OVERTEMP
 -> BIT8: RELAIS1
 -> BIT9: RELAIS2
 -> BIT10: RELAIS3
 -> BIT11: POWER CONTACTOR
 -> BIT12: MOTOR START

⁴ Extended System Status

BIT0: Reserved
 BIT1: E-Stop active
 BIT2: Heat Soak Time running
 BIT15: Reserved

BLK Type	11
Read Parameter # 1	Actual Temperature (°C/°F) Zone 1
Read Parameter # 2	Actual Temperature (°C/°F) Zone 2
Read Parameter # 3	Actual Temperature (°C/°F) Zone 3
Read Parameter # 4	Actual Temperature (°C/°F) Zone 4
Read Parameter # 5	Actual Temperature (°C/°F) Zone 5
Read Parameter # 6	Actual Temperature (°C/°F) Zone 6
Read Parameter # 7	Actual Temperature (°C/°F) Zone 7
Read Parameter # 8	Actual Temperature (°C/°F) Zone 8
Read Parameter # 9	Actual Temperature (°C/°F) Zone 9
Read Parameter # 10	Actual Temperature (°C/°F) Zone 10
Read Parameter # 11	Actual Temperature (°C/°F) Zone 11
Read Parameter # 12	Actual Temperature (°C/°F) Zone 12
Read Parameter # 13	Actual Temperature (°C/°F) Zone 13
Read Parameter # 14	Actual Temperature (°C/°F) Zone 14
Read Parameter # 15	Actual Temperature (°C/°F) Zone 15
Read Parameter # 16	Actual Temperature (°C/°F) Zone 16

BLK Type	12
Read Parameter # 1	Actual Temperature (°C/°F) Zone 17
Read Parameter # 2	Actual Temperature (°C/°F) Zone 18
Read Parameter # 3	Actual Temperature (°C/°F) Zone 19
Read Parameter # 4	Actual Temperature (°C/°F) Zone 20
Read Parameter # 5	Actual Temperature (°C/°F) Zone 21
Read Parameter # 6	Actual Temperature (°C/°F) Zone 22
Read Parameter # 7	Actual Temperature (°C/°F) Zone 23
Read Parameter # 8	Actual Temperature (°C/°F) Zone 24
Read Parameter # 9	Actual Temperature (°C/°F) Zone 25
Read Parameter # 10	Actual Temperature (°C/°F) Zone 26
Read Parameter # 11	Actual Temperature (°C/°F) Zone 27
Read Parameter # 12	Actual Temperature (°C/°F) Zone 28
Read Parameter # 13	Actual Temperature (°C/°F) Zone 29
Read Parameter # 14	Actual Temperature (°C/°F) Zone 30
Read Parameter # 15	Actual Temperature (°C/°F) Zone 31
Read Parameter # 16	Actual Temperature (°C/°F) Zone 32

BLK Type	13
Read Parameter # 1	Actual Temperature (°C/°F) Zone 33
Read Parameter # 2	Actual Temperature (°C/°F) Zone 34
Read Parameter # 3	Actual Temperature (°C/°F) Zone 35
Read Parameter # 4	Actual Temperature (°C/°F) Zone 36
Read Parameter # 5	Actual Temperature (°C/°F) Zone 37
Read Parameter # 6	Actual Temperature (°C/°F) Zone 38
Read Parameter # 7	Actual Temperature (°C/°F) Zone 39
Read Parameter # 8	Actual Temperature (°C/°F) Zone 40
Read Parameter # 9	Actual Temperature (°C/°F) Zone 41
Read Parameter # 10	Actual Temperature (°C/°F) Zone 42
Read Parameter # 11	Actual Temperature (°C/°F) Zone 43
Read Parameter # 12	Actual Temperature (°C/°F) Zone 44
Read Parameter # 13	Actual Temperature (°C/°F) Zone 45
Read Parameter # 14	Actual Temperature (°C/°F) Zone 46
Read Parameter # 15	Actual Temperature (°C/°F) Zone 47
Read Parameter # 16	Actual Temperature (°C/°F) Zone 48

BLK Type	14
Read Parameter # 1	Actual Temperature (°C/°F) Zone 49
Read Parameter # 2	Actual Temperature (°C/°F) Zone 50
Read Parameter # 3	Actual Temperature (°C/°F) Zone 51
Read Parameter # 4	Actual Temperature (°C/°F) Zone 52
Read Parameter # 5	Actual Temperature (°C/°F) Zone 53
Read Parameter # 6	Actual Temperature (°C/°F) Zone 54
Read Parameter # 7	Actual Temperature (°C/°F) Zone 55
Read Parameter # 8	Actual Temperature (°C/°F) Zone 56
Read Parameter # 9	Actual Temperature (°C/°F) Zone 57
Read Parameter # 10	Actual Temperature (°C/°F) Zone 58
Read Parameter # 11	Actual Temperature (°C/°F) Zone 59
Read Parameter # 12	Actual Temperature (°C/°F) Zone 60
Read Parameter # 13	Actual Temperature (°C/°F) Zone 61
Read Parameter # 14	Actual Temperature (°C/°F) Zone 62
Read Parameter # 15	Actual Temperature (°C/°F) Zone 63
Read Parameter # 16	Actual Temperature (°C/°F) Zone 64

BLK Type	21
Read Parameter # 1	Current Temperature Set Point (°C/°F) Zone 1
Read Parameter # 2	Current Temperature Set Point (°C/°F) Zone 2
Read Parameter # 3	Current Temperature Set Point (°C/°F) Zone 3
Read Parameter # 4	Current Temperature Set Point (°C/°F) Zone 4
Read Parameter # 5	Current Temperature Set Point (°C/°F) Zone 5
Read Parameter # 6	Current Temperature Set Point (°C/°F) Zone 6
Read Parameter # 7	Current Temperature Set Point (°C/°F) Zone 7
Read Parameter # 8	Current Temperature Set Point (°C/°F) Zone 8
Read Parameter # 9	Current Temperature Set Point (°C/°F) Zone 9
Read Parameter # 10	Current Temperature Set Point (°C/°F) Zone 10
Read Parameter # 11	Current Temperature Set Point (°C/°F) Zone 11
Read Parameter # 12	Current Temperature Set Point (°C/°F) Zone 12
Read Parameter # 13	Current Temperature Set Point (°C/°F) Zone 13
Read Parameter # 14	Current Temperature Set Point (°C/°F) Zone 14
Read Parameter # 15	Current Temperature Set Point (°C/°F) Zone 15
Read Parameter # 16	Current Temperature Set Point (°C/°F) Zone 16

BLK Type	22
Read Parameter # 1	Current Temperature Set Point (°C/°F) Zone 17
Read Parameter # 2	Current Temperature Set Point (°C/°F) Zone 18
Read Parameter # 3	Current Temperature Set Point (°C/°F) Zone 19
Read Parameter # 4	Current Temperature Set Point (°C/°F) Zone 20
Read Parameter # 5	Current Temperature Set Point (°C/°F) Zone 21
Read Parameter # 6	Current Temperature Set Point (°C/°F) Zone 22
Read Parameter # 7	Current Temperature Set Point (°C/°F) Zone 23
Read Parameter # 8	Current Temperature Set Point (°C/°F) Zone 24
Read Parameter # 9	Current Temperature Set Point (°C/°F) Zone 25
Read Parameter # 10	Current Temperature Set Point (°C/°F) Zone 26
Read Parameter # 11	Current Temperature Set Point (°C/°F) Zone 27
Read Parameter # 12	Current Temperature Set Point (°C/°F) Zone 28
Read Parameter # 13	Current Temperature Set Point (°C/°F) Zone 29
Read Parameter # 14	Current Temperature Set Point (°C/°F) Zone 30
Read Parameter # 15	Current Temperature Set Point (°C/°F) Zone 31
Read Parameter # 16	Current Temperature Set Point (°C/°F) Zone 32

BLK Type	23
Read Parameter # 1	Current Temperature Set Point (°C/°F) Zone 33
Read Parameter # 2	Current Temperature Set Point (°C/°F) Zone 34
Read Parameter # 3	Current Temperature Set Point (°C/°F) Zone 35
Read Parameter # 4	Current Temperature Set Point (°C/°F) Zone 36
Read Parameter # 5	Current Temperature Set Point (°C/°F) Zone 37
Read Parameter # 6	Current Temperature Set Point (°C/°F) Zone 38
Read Parameter # 7	Current Temperature Set Point (°C/°F) Zone 39
Read Parameter # 8	Current Temperature Set Point (°C/°F) Zone 40
Read Parameter # 9	Current Temperature Set Point (°C/°F) Zone 41
Read Parameter # 10	Current Temperature Set Point (°C/°F) Zone 42
Read Parameter # 11	Current Temperature Set Point (°C/°F) Zone 43
Read Parameter # 12	Current Temperature Set Point (°C/°F) Zone 44
Read Parameter # 13	Current Temperature Set Point (°C/°F) Zone 45
Read Parameter # 14	Current Temperature Set Point (°C/°F) Zone 46
Read Parameter # 15	Current Temperature Set Point (°C/°F) Zone 47
Read Parameter # 16	Current Temperature Set Point (°C/°F) Zone 48

BLK Type	24
Read Parameter # 1	Current Temperature Set Point (°C/°F) Zone 49
Read Parameter # 2	Current Temperature Set Point (°C/°F) Zone 50
Read Parameter # 3	Current Temperature Set Point (°C/°F) Zone 51
Read Parameter # 4	Current Temperature Set Point (°C/°F) Zone 52
Read Parameter # 5	Current Temperature Set Point (°C/°F) Zone 53
Read Parameter # 6	Current Temperature Set Point (°C/°F) Zone 54
Read Parameter # 7	Current Temperature Set Point (°C/°F) Zone 55
Read Parameter # 8	Current Temperature Set Point (°C/°F) Zone 56
Read Parameter # 9	Current Temperature Set Point (°C/°F) Zone 57
Read Parameter # 10	Current Temperature Set Point (°C/°F) Zone 58
Read Parameter # 11	Current Temperature Set Point (°C/°F) Zone 59
Read Parameter # 12	Current Temperature Set Point (°C/°F) Zone 60
Read Parameter # 13	Current Temperature Set Point (°C/°F) Zone 61
Read Parameter # 14	Current Temperature Set Point (°C/°F) Zone 62
Read Parameter # 15	Current Temperature Set Point (°C/°F) Zone 63
Read Parameter # 16	Current Temperature Set Point (°C/°F) Zone 64

BLK Type	31
Read Parameter # 1	Current Temp Status ¹ Zone 1
Read Parameter # 2	Current Temp Status ¹ Zone 2
Read Parameter # 3	Current Temp Status ¹ Zone 3
Read Parameter # 4	Current Temp Status ¹ Zone 4
Read Parameter # 5	Current Temp Status ¹ Zone 5
Read Parameter # 6	Current Temp Status ¹ Zone 6
Read Parameter # 7	Current Temp Status ¹ Zone 7
Read Parameter # 8	Current Temp Status ¹ Zone 8
Read Parameter # 9	Current Temp Status ¹ Zone 9
Read Parameter # 10	Current Temp Status ¹ Zone 10
Read Parameter # 11	Current Temp Status ¹ Zone 11
Read Parameter # 12	Current Temp Status ¹ Zone 12
Read Parameter # 13	Current Temp Status ¹ Zone 13
Read Parameter # 14	Current Temp Status ¹ Zone 14
Read Parameter # 15	Current Temp Status ¹ Zone 15
Read Parameter # 16	Current Temp Status ¹ Zone 16

¹ Temp Status is Binary Encoded:

BIT0: Zone Ready

BIT1: Zone Heating

BIT2: Zone Waiting (Sequencing)

BIT3: Zone in Alarm Status

BIT4: <reserved>

BIT5: Zone RTD Fault

BLK Type	32
Read Parameter # 1	Current Temp Status ¹ Zone 17
Read Parameter # 2	Current Temp Status ¹ Zone 18
Read Parameter # 3	Current Temp Status ¹ Zone 19
Read Parameter # 4	Current Temp Status ¹ Zone 20
Read Parameter # 5	Current Temp Status ¹ Zone 21
Read Parameter # 6	Current Temp Status ¹ Zone 22
Read Parameter # 7	Current Temp Status ¹ Zone 23
Read Parameter # 8	Current Temp Status ¹ Zone 24
Read Parameter # 9	Current Temp Status ¹ Zone 25
Read Parameter # 10	Current Temp Status ¹ Zone 26
Read Parameter # 11	Current Temp Status ¹ Zone 27
Read Parameter # 12	Current Temp Status ¹ Zone 28
Read Parameter # 13	Current Temp Status ¹ Zone 29
Read Parameter # 14	Current Temp Status ¹ Zone 30
Read Parameter # 15	Current Temp Status ¹ Zone 31
Read Parameter # 16	Current Temp Status ¹ Zone 32

BLK Type	33
Read Parameter # 1	Current Temp Status ¹ Zone 33
Read Parameter # 2	Current Temp Status ¹ Zone 34
Read Parameter # 3	Current Temp Status ¹ Zone 35
Read Parameter # 4	Current Temp Status ¹ Zone 36
Read Parameter # 5	Current Temp Status ¹ Zone 37
Read Parameter # 6	Current Temp Status ¹ Zone 38
Read Parameter # 7	Current Temp Status ¹ Zone 39
Read Parameter # 8	Current Temp Status ¹ Zone 40
Read Parameter # 9	Current Temp Status ¹ Zone 41
Read Parameter # 10	Current Temp Status ¹ Zone 42
Read Parameter # 11	Current Temp Status ¹ Zone 43
Read Parameter # 12	Current Temp Status ¹ Zone 44
Read Parameter # 13	Current Temp Status ¹ Zone 45
Read Parameter # 14	Current Temp Status ¹ Zone 46
Read Parameter # 15	Current Temp Status ¹ Zone 47
Read Parameter # 16	Current Temp Status ¹ Zone 48

¹ Temp Status is Binary Encoded:

BIT0: Zone Ready

BIT1: Zone Heating

BIT2: Zone Waiting (Sequencing)

BIT3: Zone in Alarm Status

BIT4: <reserved>

BIT5: Zone RTD Fault

BLK Type	34
Read Parameter # 1	Current Temp Status ¹ Zone 49
Read Parameter # 2	Current Temp Status ¹ Zone 50
Read Parameter # 3	Current Temp Status ¹ Zone 51
Read Parameter # 4	Current Temp Status ¹ Zone 52
Read Parameter # 5	Current Temp Status ¹ Zone 53
Read Parameter # 6	Current Temp Status ¹ Zone 54
Read Parameter # 7	Current Temp Status ¹ Zone 55
Read Parameter # 8	Current Temp Status ¹ Zone 56
Read Parameter # 9	Current Temp Status ¹ Zone 57
Read Parameter # 10	Current Temp Status ¹ Zone 58
Read Parameter # 11	Current Temp Status ¹ Zone 59
Read Parameter # 12	Current Temp Status ¹ Zone 60
Read Parameter # 13	Current Temp Status ¹ Zone 61
Read Parameter # 14	Current Temp Status ¹ Zone 62
Read Parameter # 15	Current Temp Status ¹ Zone 63
Read Parameter # 16	Current Temp Status ¹ Zone 64

BLK Type	41
Read Parameter # 1	Secondary Pressure (psi or /10 bar) Pump 1
Read Parameter # 2	Secondary Pressure (psi or /10 bar) Pump 2
Read Parameter # 3	Secondary Pressure (psi or /10 bar) Pump 3
Read Parameter # 4	Secondary Pressure (psi or /10 bar) Pump 4
Read Parameter # 5	Secondary Pressure (psi or /10 bar) Pump 5
Read Parameter # 6	Secondary Pressure (psi or /10 bar) Pump 6
Read Parameter # 7	Secondary Pressure (psi or /10 bar) Pump 7
Read Parameter # 8	Secondary Pressure (psi or /10 bar) Pump 8
Read Parameter # 9	Secondary Pressure (psi or /10 bar) Pump 9
Read Parameter # 10	
Read Parameter # 11	
Read Parameter # 12	
Read Parameter # 13	
Read Parameter # 14	
Read Parameter # 15	
Read Parameter # 16	

The Heat-Up-Sequence setting of each zone defines whether a zone is activated (sequence > 0) or deactivated (sequence = 0). All zones that have a sequence > 0 are heated up in order (first = sequence 1, second = sequence 2, etc.):

BLK Type	51
Read Parameter # 1	Current Temp Sequence Setting Zone 1
Read Parameter # 2	Current Temp Sequence Setting Zone 2
Read Parameter # 3	Current Temp Sequence Setting Zone 3
Read Parameter # 4	Current Temp Sequence Setting Zone 4
Read Parameter # 5	Current Temp Sequence Setting Zone 5
Read Parameter # 6	Current Temp Sequence Setting Zone 6
Read Parameter # 7	Current Temp Sequence Setting Zone 7
Read Parameter # 8	Current Temp Sequence Setting Zone 8
Read Parameter # 9	Current Temp Sequence Setting Zone 9
Read Parameter # 10	Current Temp Sequence Setting Zone 10
Read Parameter # 11	Current Temp Sequence Setting Zone 11
Read Parameter # 12	Current Temp Sequence Setting Zone 12
Read Parameter # 13	Current Temp Sequence Setting Zone 13
Read Parameter # 14	Current Temp Sequence Setting Zone 14
Read Parameter # 15	Current Temp Sequence Setting Zone 15
Read Parameter # 16	Current Temp Sequence Setting Zone 16

BLK Type	52
Read Parameter # 1	Current Temp Sequence Setting Zone 17
Read Parameter # 2	Current Temp Sequence Setting Zone 18
Read Parameter # 3	Current Temp Sequence Setting Zone 19
Read Parameter # 4	Current Temp Sequence Setting Zone 20
Read Parameter # 5	Current Temp Sequence Setting Zone 21
Read Parameter # 6	Current Temp Sequence Setting Zone 22
Read Parameter # 7	Current Temp Sequence Setting Zone 23
Read Parameter # 8	Current Temp Sequence Setting Zone 24
Read Parameter # 9	Current Temp Sequence Setting Zone 25
Read Parameter # 10	Current Temp Sequence Setting Zone 26
Read Parameter # 11	Current Temp Sequence Setting Zone 27
Read Parameter # 12	Current Temp Sequence Setting Zone 28
Read Parameter # 13	Current Temp Sequence Setting Zone 29
Read Parameter # 14	Current Temp Sequence Setting Zone 30
Read Parameter # 15	Current Temp Sequence Setting Zone 31
Read Parameter # 16	Current Temp Sequence Setting Zone 32

BLK Type	53
Read Parameter # 1	Current Temp Sequence Setting Zone 33
Read Parameter # 2	Current Temp Sequence Setting Zone 34
Read Parameter # 3	Current Temp Sequence Setting Zone 35
Read Parameter # 4	Current Temp Sequence Setting Zone 36
Read Parameter # 5	Current Temp Sequence Setting Zone 37
Read Parameter # 6	Current Temp Sequence Setting Zone 38
Read Parameter # 7	Current Temp Sequence Setting Zone 39
Read Parameter # 8	Current Temp Sequence Setting Zone 40
Read Parameter # 9	Current Temp Sequence Setting Zone 41
Read Parameter # 10	Current Temp Sequence Setting Zone 42
Read Parameter # 11	Current Temp Sequence Setting Zone 43
Read Parameter # 12	Current Temp Sequence Setting Zone 44
Read Parameter # 13	Current Temp Sequence Setting Zone 45
Read Parameter # 14	Current Temp Sequence Setting Zone 46
Read Parameter # 15	Current Temp Sequence Setting Zone 47
Read Parameter # 16	Current Temp Sequence Setting Zone 48

BLK Type	54
Read Parameter # 1	Current Temp Sequence Setting Zone 49
Read Parameter # 2	Current Temp Sequence Setting Zone 50
Read Parameter # 3	Current Temp Sequence Setting Zone 51
Read Parameter # 4	Current Temp Sequence Setting Zone 52
Read Parameter # 5	Current Temp Sequence Setting Zone 53
Read Parameter # 6	Current Temp Sequence Setting Zone 54
Read Parameter # 7	Current Temp Sequence Setting Zone 55
Read Parameter # 8	Current Temp Sequence Setting Zone 56
Read Parameter # 9	Current Temp Sequence Setting Zone 57
Read Parameter # 10	Current Temp Sequence Setting Zone 58
Read Parameter # 11	Current Temp Sequence Setting Zone 59
Read Parameter # 12	Current Temp Sequence Setting Zone 60
Read Parameter # 13	Current Temp Sequence Setting Zone 61
Read Parameter # 14	Current Temp Sequence Setting Zone 62
Read Parameter # 15	Current Temp Sequence Setting Zone 63
Read Parameter # 16	Current Temp Sequence Setting Zone 64

BLK Type	101
Read Parameter # 1	Manual Set Point (0..1000=0..100,0%) Pump 1
Read Parameter # 2	Manual Set Point (0..1000=0..100,0%) Pump 2
Read Parameter # 3	Manual Set Point (0..1000=0..100,0%) Pump 3
Read Parameter # 4	Manual Set Point (0..1000=0..100,0%) Pump 4
Read Parameter # 5	Manual Set Point (0..1000=0..100,0%) Pump 5
Read Parameter # 6	Manual Set Point (0..1000=0..100,0%) Pump 6
Read Parameter # 7	Manual Set Point (0..1000=0..100,0%) Pump 7
Read Parameter # 8	Manual Set Point (0..1000=0..100,0%) Pump 8
Read Parameter # 9	Manual Set Point (0..1000=0..100,0%) Pump 9
Read Parameter # 10	
Read Parameter # 11	
Read Parameter # 12	
Read Parameter # 13	
Read Parameter # 14	
Read Parameter # 15	
Read Parameter # 16	

BLK Type	102
Read Parameter # 1	Min Auto Value (0..1000=0..100,0%) Pump 1
Read Parameter # 2	Min Auto Value (0..1000=0..100,0%) Pump 2
Read Parameter # 3	Min Auto Value (0..1000=0..100,0%) Pump 3
Read Parameter # 4	Min Auto Value (0..1000=0..100,0%) Pump 4
Read Parameter # 5	Min Auto Value (0..1000=0..100,0%) Pump 5
Read Parameter # 6	Min Auto Value (0..1000=0..100,0%) Pump 6
Read Parameter # 7	Min Auto Value (0..1000=0..100,0%) Pump 7
Read Parameter # 8	Min Auto Value (0..1000=0..100,0%) Pump 8
Read Parameter # 9	Min Auto Value (0..1000=0..100,0%) Pump 9
Read Parameter # 10	
Read Parameter # 11	
Read Parameter # 12	
Read Parameter # 13	
Read Parameter # 14	
Read Parameter # 15	
Read Parameter # 16	

BLK Type	103
Read Parameter # 1	Max Auto Value (0..1000=0..100,0%) Pump 1
Read Parameter # 2	Max Auto Value (0..1000=0..100,0%) Pump 2
Read Parameter # 3	Max Auto Value (0..1000=0..100,0%) Pump 3
Read Parameter # 4	Max Auto Value (0..1000=0..100,0%) Pump 4
Read Parameter # 5	Max Auto Value (0..1000=0..100,0%) Pump 5
Read Parameter # 6	Max Auto Value (0..1000=0..100,0%) Pump 6
Read Parameter # 7	Max Auto Value (0..1000=0..100,0%) Pump 7
Read Parameter # 8	Max Auto Value (0..1000=0..100,0%) Pump 8
Read Parameter # 9	Max Auto Value (0..1000=0..100,0%) Pump 9
Read Parameter # 10	
Read Parameter # 11	
Read Parameter # 12	
Read Parameter # 13	
Read Parameter # 14	
Read Parameter # 15	
Read Parameter # 16	

BLK Type	104
Read Parameter # 1	Line Speed SwP (0..1000=0..100%) Pump 1
Read Parameter # 2	Line Speed SwP (0..1000=0..100%) Pump 2
Read Parameter # 3	Line Speed SwP (0..1000=0..100%) Pump 3
Read Parameter # 4	Line Speed SwP (0..1000=0..100%) Pump 4
Read Parameter # 5	Line Speed SwP (0..1000=0..100%) Pump 5
Read Parameter # 6	Line Speed SwP (0..1000=0..100%) Pump 6
Read Parameter # 7	Line Speed SwP (0..1000=0..100%) Pump 7
Read Parameter # 8	Line Speed SwP (0..1000=0..100%) Pump 8
Read Parameter # 9	Line Speed SwP (0..1000=0..100%) Pump 9
Read Parameter # 10	
Read Parameter # 11	
Read Parameter # 12	
Read Parameter # 13	
Read Parameter # 14	
Read Parameter # 15	
Read Parameter # 16	

BLK Type	105
Read Parameter # 1	Pressure SP (psi or /10 bar) Pump 1
Read Parameter # 2	Pressure SP (psi or /10 bar) Pump 2
Read Parameter # 3	Pressure SP (psi or /10 bar) Pump 3
Read Parameter # 4	Pressure SP (psi or /10 bar) Pump 4
Read Parameter # 5	Pressure SP (psi or /10 bar) Pump 5
Read Parameter # 6	Pressure SP (psi or /10 bar) Pump 6
Read Parameter # 7	Pressure SP (psi or /10 bar) Pump 7
Read Parameter # 8	Pressure SP (psi or /10 bar) Pump 8
Read Parameter # 9	Pressure SP (psi or /10 bar) Pump 9
Read Parameter # 10	
Read Parameter # 11	
Read Parameter # 12	
Read Parameter # 13	
Read Parameter # 14	
Read Parameter # 15	
Read Parameter # 16	

This list of Exchangeable Data Blocks can be extended in future.

Transmitted Data Block

The data to be transmitted to the DynaControl V6 is also implemented as cyclic I/O. It consists of 61 words (122 bytes). Not all of the values might be used depending on the current system configuration.

DyCo6_OUT	{...}	{...}		UDT_V6_OUT	Output Parameters to DynaControl V6
DyCo6_OUT.SPARE1	16#0000		Hex	INT	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.SPARE2	16#0000		Hex	INT	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSSET_ON	2#1		Binary	BOOL	Output Parameters to DynaControl V6 System On
DyCo6_OUT.GLOBAL_SYSSET_STANDBY	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Stand-By Mode
DyCo6_OUT.GLOBAL_SYSSET_SPARE1	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSSET_ACK_ALM	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reset Alarms
DyCo6_OUT.GLOBAL_SYSSET_SPARE2	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSSET_WDOG	2#1		Binary	BOOL	Output Parameters to DynaControl V6 Watchdog
DyCo6_OUT.GLOBAL_SYSSET_SPARE3	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSSET_PUMP1_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSSET_PUMP2_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSSET_PUMP3_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSSET_PUMP4_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSSET_PUMP5_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSSET_PUMP6_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSSET_PUMP7_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSSET_PUMP8_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSSET_PUMP9_ON	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Start Pump
DyCo6_OUT.GLOBAL_SYSCtrl_BUSCTRL	2#1		Binary	BOOL	Output Parameters to DynaControl V6 Bus takes Control
DyCo6_OUT.GLOBAL_SYSCtrl_BUSLS	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Global Line Speed supplied via Bus
DyCo6_OUT.GLOBAL_SYSCtrl_SPARE1	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSCtrl_SPARE2	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSCtrl_SPARE3	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSCtrl_SPARE4	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSCtrl_SPARE5	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSCtrl_SPARE6	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Reserved
DyCo6_OUT.GLOBAL_SYSCtrl_IMPERIAL	2#1		Binary	BOOL	Output Parameters to DynaControl V6 Unit uses Imperial Units ("F"/psi)
DyCo6_OUT.GLOBAL_SYSCtrl_RECIPe_D0	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Recipe Selection bit 0
DyCo6_OUT.GLOBAL_SYSCtrl_RECIPe_D1	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Recipe Selection bit 1
DyCo6_OUT.GLOBAL_SYSCtrl_RECIPe_D2	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Recipe Selection bit 2
DyCo6_OUT.GLOBAL_SYSCtrl_RECIPe_D3	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Recipe Selection bit 3
DyCo6_OUT.GLOBAL_SYSCtrl_RECIPe_D4	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Recipe Selection bit 4
DyCo6_OUT.GLOBAL_SYSCtrl_RECIPe_1	2#0		Binary	BOOL	Output Parameters to DynaControl V6 Recipe Selection "1"
DyCo6_OUT.GLOBAL_SYSCtrl_RECIPe_0	2#1		Binary	BOOL	Output Parameters to DynaControl V6 Recipe Selection "0"

The first two words should not be used and exist for compatibility reasons with other field bus protocols.

Pumps On/Off

Use bits **DyCo6_OUT.GLOBAL_SYSSET_PUMPn_ON** to switch the pumps on and off. Please be aware that bit **DyCo6_OUT.GLOBAL_SYSCtrl_BUSCTRL** (Bus takes control of System Status, see page29) must be set and watchdog toggling must be active for pumps to work.

System On/Off

Use bit **DyCo6_OUT.GLOBAL_SYSSET_ON** to switch DynaControl V6 on (TRUE) or off (FALSE). Please be aware that bit **DyCo6_OUT.GLOBAL_SYSCtrl_BUSCTRL** (Bus takes control of System Status, see page29) must be set and watchdog toggling must be active.

System Stand-By

Use bit **DyCo6_OUT.GLOBAL_SYSSET_STANDBY** to switch DynaControl V6 to Stand-By mode. Please be aware that bit **DyCo6_OUT.GLOBAL_SYSCtrl_BUSCTRL** (Bus takes control of System Status, see page29) must be set and watchdog toggling must be active.

Acknowledge Alarms

A trigger on bit **DyCo6_OUT.GLOBAL_SYSSET_ACK_ALM** will acknowledge alarms in the DynaControl V6 System. It has the same functionality as acknowledging alarms on the system HMI.

Watchdog

Please supply a toggling signal for bit **DyCo6_OUT.GLOBAL_WDOG** to establish communication handshake with the DynaControl V6. The signal can be self-generated (at ~1Hz) or be transferred from the input data block (**DyCo6_IN.GLOBAL_SYSSTAT_WATCHDOG**), which is recommended. (The Demo program demonstrates this method of communication handshake).

A timeout on the watchdog bit will cause the pumps to stop.

Imperial Units

Supplying a logic 1 to bit **DyCo6_OUT.GLOBAL_SYSCTRL_IMPERIAL** will cause the system to switch to imperial units. All temperatures (set points and actual values) will be in °F, all pressures will be in psi (instead of °C/bar).

Recipe Selection

Bits 10 to 15 in the System Control Word can be used to select one of the 10 recipes.

Bit 14 has to be set to '0', bit 15 has to be set to '1'. Bits 10 to 13 define the recipe number (1 to 10).

This feature is only available when a V6Touch panel is used.

BUSCTRL

Bus takes control of System Status (bit **DyCo6_OUT.GLOBAL_SYSCTRL_BUSCTRL**) must be set to operate system status and pump functionality (e.g. System on/off, Stand-By, Pumps on/off).

	+	DyCo6_OUT.GLOBAL_LS	0	Decimal	INT	Output Parameters to DynaControl V6 Global Line Speed	
	+	DyCo6_OUT.MOTOR1_SP	500	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.MOTOR2_SP	0	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.MOTOR3_SP	0	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.MOTOR4_SP	0	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.MOTOR5_SP	0	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.MOTOR6_SP	0	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.MOTOR7_SP	0	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.MOTOR8_SP	0	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.MOTOR9_SP	0	Decimal	INT	Output Parameters to DynaControl V6 Motor SP (0..1000 = 0..100.0%; Bl	
	+	DyCo6_OUT.RD_BLK_TYPE	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Read Block Type	
	+	DyCo6_OUT.RD_BLK_UID	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Read Block UID	
	+	DyCo6_OUT.SPARE3	0	Decimal	INT	Output Parameters to DynaControl V6 Reserved	
	+	DyCo6_OUT.SPARE4	0	Decimal	INT	Output Parameters to DynaControl V6 Reserved	
	+	DyCo6_OUT.WR_BLK_TYPE1	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Write Block Type #1	
	+	DyCo6_OUT.WR_BLK_UID	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Write Block UID	
	+	DyCo6_OUT.SPARE5	0	Decimal	INT	Output Parameters to DynaControl V6 Reserved	
	+	DyCo6_OUT.SPARE6	0	Decimal	INT	Output Parameters to DynaControl V6 Reserved	
	-	DyCo6_OUT.DATA	{...}	{...}	Decimal	INT[16]	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[0]	266	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[1]	267	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[2]	268	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[3]	269	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[4]	270	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[5]	271	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[6]	272	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[7]	273	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[8]	274	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[9]	275	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[10]	276	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[11]	277	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[12]	278	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[13]	279	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[14]	280	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
		+	DyCo6_OUT.DATA[15]	281	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6
	+	DyCo6_OUT.WR_BLK_TYPE2	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Write Block Type #2	

BUSLS + LINE SPEED

If BUSLS (bit **DyCo6_OUT.GLOBAL_SYSCTRL_BUSLS**) is set, the PLC must supply the global main machine line speed directly via field bus. The word **DyCo6_OUT.GLOBAL_LS** must be supplied accordingly with the main machine speed in percent (0-1000 = 0-100.0%). This speed is given to the motors running in automatic line speed control mode automatically.

Motor Speed Set Points

The words **DyCo6_OUT.MOTORn_SP** can be set to the desired pump speed (in %x10, 0-1000 = 0-100.0%). The pump will then run with this set point, if all conditions are met (system is ready) and the according “pump on bit” is set (see page 24). If bit 15 is set, the motor will follow the settings of the supplied line speed instead (automatic mode).

Read Parameter Block Type

The Read Parameter Block Type and the UID define which exchangeable block is transferred on the read side. A value of 0 on RD_BLK_TYPE will cause the DynaControl V6 to cycle through all known exchangeable parameters blocks. By supplying any value to RD_BLK_UID the very same value is reflected in the read block to make sure the request got through. The usage of the UID is optional.

	DyCo6_OUT.RD_BLK_TYPE	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Read Block Type
	DyCo6_OUT.RD_BLK_UID	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Read Block UID

Exchangeable Transmit Data Frame

	+	DyCo6_OUT.WR_BLK_TYPE1	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Write Block Type #1	
	+	DyCo6_OUT.WR_BLK_UID	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Write Block UID	
	+	DyCo6_OUT.SPARE5	0	Decimal	INT	Output Parameters to DynaControl V6 Reserved	
	+	DyCo6_OUT.SPARE6	0	Decimal	INT	Output Parameters to DynaControl V6 Reserved	
	-	DyCo6_OUT.DATA	{...}	{...}	Decimal	INT[16]	Output Parameters to DynaControl V6 Data to DynaControl V6
	+	DyCo6_OUT.DATA[0]	266	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[1]	267	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[2]	268	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[3]	269	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[4]	270	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[5]	271	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[6]	272	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[7]	273	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[8]	274	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[9]	275	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[10]	276	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[11]	277	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[12]	278	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[13]	279	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[14]	280	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.DATA[15]	281	Decimal	INT	Output Parameters to DynaControl V6 Data to DynaControl V6	
	+	DyCo6_OUT.WR_BLK_TYPE2	0	Decimal	INT	Output Parameters to DynaControl V6 Parameter Write Block Type #2	

To support multiple information blocks inside the limited field bus size, an exchangeable data frame is transmitted. The data to be send must be defined by the PLC software.

If the words **DyCo6_OUT.WR_BLK_TYPE1** and **DyCo6_OUT.WR_BLK_TYPE2** are equal, the value of these words define the content of **DyCo6_OUT.DATA[n]** (16 words).

To transmit custom values in exchangeable data blocks to DynaControl V6, follow these steps in sequence:

1. Write a logical 0 into words **DyCo6_OUT.WR_BLK_TYPE1** and **DyCo6_OUT.WR_BLK_TYPE2**
2. Fill in DATA[0] to DATA[15] depending on the data block type to be sent
3. Write a unique value into word **DyCo6_OUT.WR_BLK_UID**
4. Write the desired data block type into words **DyCo6_OUT.WR_BLK_TYPE1** and **DyCo6_OUT.WR_BLK_TYPE2**
5. Wait until the unique ID has appeared in the read data block at **DyCo6_IN.LAST_SUCC_WRITE_ID**
6. Write a logical 0 into words **DyCo6_OUT.WR_BLK_TYPE1** and **DyCo6_OUT.WR_BLK_TYPE2**

Exchangeable Write Block Types

The following exchangeable transmit blocks are defined:

BLK Type	11
Write Parameter # 1	Set Point Temperature (°C/°F) Zone 1
Write Parameter # 2	Set Point Temperature (°C/°F) Zone 2
Write Parameter # 3	Set Point Temperature (°C/°F) Zone 3
Write Parameter # 4	Set Point Temperature (°C/°F) Zone 4
Write Parameter # 5	Set Point Temperature (°C/°F) Zone 5
Write Parameter # 6	Set Point Temperature (°C/°F) Zone 6
Write Parameter # 7	Set Point Temperature (°C/°F) Zone 7
Write Parameter # 8	Set Point Temperature (°C/°F) Zone 8
Write Parameter # 9	Set Point Temperature (°C/°F) Zone 9
Write Parameter # 10	Set Point Temperature (°C/°F) Zone 10
Write Parameter # 11	Set Point Temperature (°C/°F) Zone 11
Write Parameter # 12	Set Point Temperature (°C/°F) Zone 12
Write Parameter # 13	Set Point Temperature (°C/°F) Zone 13
Write Parameter # 14	Set Point Temperature (°C/°F) Zone 14
Write Parameter # 15	Set Point Temperature (°C/°F) Zone 15
Write Parameter # 16	Set Point Temperature (°C/°F) Zone 16

BLK Type	12
Write Parameter # 1	Set Point Temperature (°C/°F) Zone 17
Write Parameter # 2	Set Point Temperature (°C/°F) Zone 18
Write Parameter # 3	Set Point Temperature (°C/°F) Zone 19
Write Parameter # 4	Set Point Temperature (°C/°F) Zone 20
Write Parameter # 5	Set Point Temperature (°C/°F) Zone 21
Write Parameter # 6	Set Point Temperature (°C/°F) Zone 22
Write Parameter # 7	Set Point Temperature (°C/°F) Zone 23
Write Parameter # 8	Set Point Temperature (°C/°F) Zone 24
Write Parameter # 9	Set Point Temperature (°C/°F) Zone 25
Write Parameter # 10	Set Point Temperature (°C/°F) Zone 26
Write Parameter # 11	Set Point Temperature (°C/°F) Zone 27
Write Parameter # 12	Set Point Temperature (°C/°F) Zone 28
Write Parameter # 13	Set Point Temperature (°C/°F) Zone 29
Write Parameter # 14	Set Point Temperature (°C/°F) Zone 30
Write Parameter # 15	Set Point Temperature (°C/°F) Zone 31
Write Parameter # 16	Set Point Temperature (°C/°F) Zone 32

BLK Type	13
Write Parameter # 1	Set Point Temperature (°C/°F) Zone 33
Write Parameter # 2	Set Point Temperature (°C/°F) Zone 34
Write Parameter # 3	Set Point Temperature (°C/°F) Zone 35
Write Parameter # 4	Set Point Temperature (°C/°F) Zone 36
Write Parameter # 5	Set Point Temperature (°C/°F) Zone 37
Write Parameter # 6	Set Point Temperature (°C/°F) Zone 38
Write Parameter # 7	Set Point Temperature (°C/°F) Zone 39
Write Parameter # 8	Set Point Temperature (°C/°F) Zone 40
Write Parameter # 9	Set Point Temperature (°C/°F) Zone 41
Write Parameter # 10	Set Point Temperature (°C/°F) Zone 42
Write Parameter # 11	Set Point Temperature (°C/°F) Zone 43
Write Parameter # 12	Set Point Temperature (°C/°F) Zone 44
Write Parameter # 13	Set Point Temperature (°C/°F) Zone 45
Write Parameter # 14	Set Point Temperature (°C/°F) Zone 46
Write Parameter # 15	Set Point Temperature (°C/°F) Zone 47
Write Parameter # 16	Set Point Temperature (°C/°F) Zone 48

BLK Type	14
Write Parameter # 1	Set Point Temperature (°C/°F) Zone 49
Write Parameter # 2	Set Point Temperature (°C/°F) Zone 50
Write Parameter # 3	Set Point Temperature (°C/°F) Zone 51
Write Parameter # 4	Set Point Temperature (°C/°F) Zone 52
Write Parameter # 5	Set Point Temperature (°C/°F) Zone 53
Write Parameter # 6	Set Point Temperature (°C/°F) Zone 54
Write Parameter # 7	Set Point Temperature (°C/°F) Zone 55
Write Parameter # 8	Set Point Temperature (°C/°F) Zone 56
Write Parameter # 9	Set Point Temperature (°C/°F) Zone 57
Write Parameter # 10	Set Point Temperature (°C/°F) Zone 58
Write Parameter # 11	Set Point Temperature (°C/°F) Zone 59
Write Parameter # 12	Set Point Temperature (°C/°F) Zone 60
Write Parameter # 13	Set Point Temperature (°C/°F) Zone 61
Write Parameter # 14	Set Point Temperature (°C/°F) Zone 62
Write Parameter # 15	Set Point Temperature (°C/°F) Zone 63
Write Parameter # 16	Set Point Temperature (°C/°F) Zone 64

The Heat-Up-Sequence Setting of each zone defines whether a zone is activated (sequence > 0) or deactivated (sequence = 0). All zones that have a sequence > 0 are heated up in order (first = sequence 1, second = sequence 2, etc.):

BLK Type	51
Write Parameter # 1	Heat-Up Sequence Setting (0=Off) Zone 1
Write Parameter # 2	Heat-Up Sequence Setting (0=Off) Zone 2
Write Parameter # 3	Heat-Up Sequence Setting (0=Off) Zone 3
Write Parameter # 4	Heat-Up Sequence Setting (0=Off) Zone 4
Write Parameter # 5	Heat-Up Sequence Setting (0=Off) Zone 5
Write Parameter # 6	Heat-Up Sequence Setting (0=Off) Zone 6
Write Parameter # 7	Heat-Up Sequence Setting (0=Off) Zone 7
Write Parameter # 8	Heat-Up Sequence Setting (0=Off) Zone 8
Write Parameter # 9	Heat-Up Sequence Setting (0=Off) Zone 9
Write Parameter # 10	Heat-Up Sequence Setting (0=Off) Zone 10
Write Parameter # 11	Heat-Up Sequence Setting (0=Off) Zone 11
Write Parameter # 12	Heat-Up Sequence Setting (0=Off) Zone 12
Write Parameter # 13	Heat-Up Sequence Setting (0=Off) Zone 13
Write Parameter # 14	Heat-Up Sequence Setting (0=Off) Zone 14
Write Parameter # 15	Heat-Up Sequence Setting (0=Off) Zone 15
Write Parameter # 16	Heat-Up Sequence Setting (0=Off) Zone 16

BLK Type	52
Write Parameter # 1	Heat-Up Sequence Setting (0=Off) Zone 17
Write Parameter # 2	Heat-Up Sequence Setting (0=Off) Zone 18
Write Parameter # 3	Heat-Up Sequence Setting (0=Off) Zone 19
Write Parameter # 4	Heat-Up Sequence Setting (0=Off) Zone 20
Write Parameter # 5	Heat-Up Sequence Setting (0=Off) Zone 21
Write Parameter # 6	Heat-Up Sequence Setting (0=Off) Zone 22
Write Parameter # 7	Heat-Up Sequence Setting (0=Off) Zone 23
Write Parameter # 8	Heat-Up Sequence Setting (0=Off) Zone 24
Write Parameter # 9	Heat-Up Sequence Setting (0=Off) Zone 25
Write Parameter # 10	Heat-Up Sequence Setting (0=Off) Zone 26
Write Parameter # 11	Heat-Up Sequence Setting (0=Off) Zone 27
Write Parameter # 12	Heat-Up Sequence Setting (0=Off) Zone 28
Write Parameter # 13	Heat-Up Sequence Setting (0=Off) Zone 29
Write Parameter # 14	Heat-Up Sequence Setting (0=Off) Zone 30
Write Parameter # 15	Heat-Up Sequence Setting (0=Off) Zone 31
Write Parameter # 16	Heat-Up Sequence Setting (0=Off) Zone 32

BLK Type	53
Write Parameter # 1	Heat-Up Sequence Setting (0=Off) Zone 33
Write Parameter # 2	Heat-Up Sequence Setting (0=Off) Zone 34
Write Parameter # 3	Heat-Up Sequence Setting (0=Off) Zone 35
Write Parameter # 4	Heat-Up Sequence Setting (0=Off) Zone 36
Write Parameter # 5	Heat-Up Sequence Setting (0=Off) Zone 37
Write Parameter # 6	Heat-Up Sequence Setting (0=Off) Zone 38
Write Parameter # 7	Heat-Up Sequence Setting (0=Off) Zone 39
Write Parameter # 8	Heat-Up Sequence Setting (0=Off) Zone 40
Write Parameter # 9	Heat-Up Sequence Setting (0=Off) Zone 41
Write Parameter # 10	Heat-Up Sequence Setting (0=Off) Zone 42
Write Parameter # 11	Heat-Up Sequence Setting (0=Off) Zone 43
Write Parameter # 12	Heat-Up Sequence Setting (0=Off) Zone 44
Write Parameter # 13	Heat-Up Sequence Setting (0=Off) Zone 45
Write Parameter # 14	Heat-Up Sequence Setting (0=Off) Zone 46
Write Parameter # 15	Heat-Up Sequence Setting (0=Off) Zone 47
Write Parameter # 16	Heat-Up Sequence Setting (0=Off) Zone 48

BLK Type	54
Write Parameter # 1	Heat-Up Sequence Setting (0=Off) Zone 49
Write Parameter # 2	Heat-Up Sequence Setting (0=Off) Zone 50
Write Parameter # 3	Heat-Up Sequence Setting (0=Off) Zone 51
Write Parameter # 4	Heat-Up Sequence Setting (0=Off) Zone 52
Write Parameter # 5	Heat-Up Sequence Setting (0=Off) Zone 53
Write Parameter # 6	Heat-Up Sequence Setting (0=Off) Zone 54
Write Parameter # 7	Heat-Up Sequence Setting (0=Off) Zone 55
Write Parameter # 8	Heat-Up Sequence Setting (0=Off) Zone 56
Write Parameter # 9	Heat-Up Sequence Setting (0=Off) Zone 57
Write Parameter # 10	Heat-Up Sequence Setting (0=Off) Zone 58
Write Parameter # 11	Heat-Up Sequence Setting (0=Off) Zone 59
Write Parameter # 12	Heat-Up Sequence Setting (0=Off) Zone 60
Write Parameter # 13	Heat-Up Sequence Setting (0=Off) Zone 61
Write Parameter # 14	Heat-Up Sequence Setting (0=Off) Zone 62
Write Parameter # 15	Heat-Up Sequence Setting (0=Off) Zone 63
Write Parameter # 16	Heat-Up Sequence Setting (0=Off) Zone 64

BLK Type	102
Write Parameter # 1	Min Auto Value (0..1000=0..100,0%) Pump 1
Write Parameter # 2	Min Auto Value (0..1000=0..100,0%) Pump 2
Write Parameter # 3	Min Auto Value (0..1000=0..100,0%) Pump 3
Write Parameter # 4	Min Auto Value (0..1000=0..100,0%) Pump 4
Write Parameter # 5	Min Auto Value (0..1000=0..100,0%) Pump 5
Write Parameter # 6	Min Auto Value (0..1000=0..100,0%) Pump 6
Write Parameter # 7	Min Auto Value (0..1000=0..100,0%) Pump 7
Write Parameter # 8	Min Auto Value (0..1000=0..100,0%) Pump 8
Write Parameter # 9	Min Auto Value (0..1000=0..100,0%) Pump 9
Write Parameter # 10	
Write Parameter # 11	
Write Parameter # 12	
Write Parameter # 13	
Write Parameter # 14	
Write Parameter # 15	
Write Parameter # 16	

BLK Type	103
Write Parameter # 1	Max Auto Value (0..1000=0..100,0%) Pump 1
Write Parameter # 2	Max Auto Value (0..1000=0..100,0%) Pump 2
Write Parameter # 3	Max Auto Value (0..1000=0..100,0%) Pump 3
Write Parameter # 4	Max Auto Value (0..1000=0..100,0%) Pump 4
Write Parameter # 5	Max Auto Value (0..1000=0..100,0%) Pump 5
Write Parameter # 6	Max Auto Value (0..1000=0..100,0%) Pump 6
Write Parameter # 7	Max Auto Value (0..1000=0..100,0%) Pump 7
Write Parameter # 8	Max Auto Value (0..1000=0..100,0%) Pump 8
Write Parameter # 9	Max Auto Value (0..1000=0..100,0%) Pump 9
Write Parameter # 10	
Write Parameter # 11	
Write Parameter # 12	
Write Parameter # 13	
Write Parameter # 14	
Write Parameter # 15	
Write Parameter # 16	

“Min and Max Auto Values” define the limits of pump volumetric mode. The actual pump speed will be set between these limits according to the current line speed.

BLK Type	104
Write Parameter # 1	Line Speed SwP (0..1000=0..100%) Pump 1
Write Parameter # 2	Line Speed SwP (0..1000=0..100%) Pump 2
Write Parameter # 3	Line Speed SwP (0..1000=0..100%) Pump 3
Write Parameter # 4	Line Speed SwP (0..1000=0..100%) Pump 4
Write Parameter # 5	Line Speed SwP (0..1000=0..100%) Pump 5
Write Parameter # 6	Line Speed SwP (0..1000=0..100%) Pump 6
Write Parameter # 7	Line Speed SwP (0..1000=0..100%) Pump 7
Write Parameter # 8	Line Speed SwP (0..1000=0..100%) Pump 8
Write Parameter # 9	Line Speed SwP (0..1000=0..100%) Pump 9
Write Parameter # 10	
Write Parameter # 11	
Write Parameter # 12	
Write Parameter # 13	
Write Parameter # 14	
Write Parameter # 15	
Write Parameter # 16	

The Line Speed SwP (Switch Point) defines the limit of the line speed, above which the system falls into volumetric mode. Below this limit the system tries to maintain the pressure set point. This is only valid if the pump operation mode is set to pressure control mode.

BLK Type	105
Write Parameter # 1	Pressure SP (psi or /10 bar) Pump 1
Write Parameter # 2	Pressure SP (psi or /10 bar) Pump 2
Write Parameter # 3	Pressure SP (psi or /10 bar) Pump 3
Write Parameter # 4	Pressure SP (psi or /10 bar) Pump 4
Write Parameter # 5	Pressure SP (psi or /10 bar) Pump 5
Write Parameter # 6	Pressure SP (psi or /10 bar) Pump 6
Write Parameter # 7	Pressure SP (psi or /10 bar) Pump 7
Write Parameter # 8	Pressure SP (psi or /10 bar) Pump 8
Write Parameter # 9	Pressure SP (psi or /10 bar) Pump 9
Write Parameter # 10	
Write Parameter # 11	
Write Parameter # 12	
Write Parameter # 13	
Write Parameter # 14	
Write Parameter # 15	
Write Parameter # 16	

This list of Exchangeable Data Blocks can be extended in future.

Addendum

Standard System Zone Tables

DynaControl SR05/10 New Generation

Zone 1	Pre-Melt Grid
Zone 2	Hopper
Zone 3	Filter
Zone 4	Hose 1
Zone 5	Head 1
Zone 6	Hose 2
Zone 7	Head 2
Zone 8	Hose 3
Zone 9	Head 3
Zone 10	Hose 4
Zone 11	Head 4
Zone 12	Hose 5
Zone 13	Head 5
Zone 14	Hose 6
Zone 15	Head 6
Zone 16	Aux 1

DynaControl D25/D45

Zone 1	Pre-Melt Grid 1
Zone 2	Hopper
Zone 3	Pre-Melt Grid 2
Zone 4	Hose 1
Zone 5	Head 1
Zone 6	Hose 2
Zone 7	Head 2
Zone 8	Hose 3
Zone 9	Head 3
Zone 10	Hose 4
Zone 11	Head 4
Zone 12	Aux 1
Zone 13	Aux 2
Zone 14	Aux 3
Zone 15	Aux 4
Zone 16	<unused>

DynaControl D50/D90

Zone 1	Pre-Melt Grid 1
Zone 2	Hopper 1
Zone 3	Pre-Melt Grid 2
Zone 4	Hose 1
Zone 5	Head 1
Zone 6	Hose 2
Zone 7	Head 2
Zone 8	Hose 3
Zone 9	Head 3
Zone 10	Hose 4
Zone 11	Head 4
Zone 12	Aux 1
Zone 13	Aux 2
Zone 14	Aux 3
Zone 15	Aux 4
Zone 16	<unused>

Zone 17	Pre-Melt Grid 3
Zone 18	Hopper 2
Zone 19	Pre-melt Grid 4
Zone 20	Hose 5
Zone 21	Head 5
Zone 22	Hose 6
Zone 23	Head 6
Zone 24	Hose 7
Zone 25	Head 7
Zone 26	Hose 8
Zone 27	Head 8
Zone 28	Aux 5
Zone 29	Aux 6
Zone 30	Aux 7
Zone 31	Aux 8
Zone 32	<unused>

DynaControl PUR20

Zone 1	Aux 5
Zone 2	Hopper Aux
Zone 3	Platen
Zone 4	Hose 1
Zone 5	Head 1
Zone 6	Aux 1
Zone 7	Aux 2
Zone 8	Hose 2
Zone 9	Head 2
Zone 10	Aux 3
Zone 11	Aux 4
Zone 12	Hose 3
Zone 13	Head 3
Zone 14	Hose 4
Zone 15	Head 4
Zone 16	Hopper

DynaControl M35

Zone 1	Pre-Melt Grid 1
Zone 2	Hopper
Zone 3	Filter Block
Zone 4	Hose 1
Zone 5	Head 1
Zone 6	Hose 2
Zone 7	Head 2
Zone 8	Hose 3
Zone 9	Head 3
Zone 10	Hose 4
Zone 11	Head 4
Zone 12	Aux 1
Zone 13	Aux 2
Zone 14	Aux 3
Zone 15	Aux 4
Zone 16	Pre-Melt Grid 2

DynaControl M70/M140

Zone 1	Pre-Melt Grid 1
Zone 2	Hopper 1
Zone 3	Filter Block 1
Zone 4	Hose 1
Zone 5	Head 1
Zone 6	Hose 2
Zone 7	Head 2
Zone 8	Hose 3
Zone 9	Head 3
Zone 10	Hose 4
Zone 11	Head 4
Zone 12	Aux 1
Zone 13	Aux 2
Zone 14	Aux 3
Zone 15	Aux 4
Zone 16	Pre-Melt Grid 2
Zone 17	Pre-Melt Grid 3
Zone 18	Hopper 2
Zone 19	Filter Block 2
Zone 20	Hose 5
Zone 21	Head 5
Zone 22	Hose 6
Zone 23	Head 6
Zone 24	Hose 7
Zone 25	Head 7
Zone 26	Hose 8
Zone 27	Head 8
Zone 28	Aux 5
Zone 29	Aux 6
Zone 30	Aux 7
Zone 31	Aux 8
Zone 32	Pre-Melt Grid 4

DynaControl M210

Zone 1	Pre-Melt Grid 1
Zone 2	Hopper 1
Zone 3	Filter Block 1
Zone 4	Hose 1
Zone 5	Head 1
Zone 6	Hose 2
Zone 7	Head 2
Zone 8	Hose 3
Zone 9	Head 3
Zone 10	Hose 4
Zone 11	Head 4
Zone 12	Aux 1
Zone 13	Aux 2
Zone 14	Aux 3
Zone 15	Aux 4
Zone 16	Pre-Melt Grid 2

Zone 17	Pre-Melt Grid 3
Zone 18	Hopper 2
Zone 19	Filter Block 2
Zone 20	Hose 5
Zone 21	Head 5
Zone 22	Hose 6
Zone 23	Head 6
Zone 24	Hose 7
Zone 25	Head 7
Zone 26	Hose 8
Zone 27	Head 8
Zone 28	Aux 5
Zone 29	Aux 6
Zone 30	Aux 7
Zone 31	Aux 8
Zone 32	Pre-Melt Grid 4

Zone 33	Pre-Melt Grid 5
Zone 34	Hopper 3
Zone 35	Filter Block 3
Zone 36	Hose 9
Zone 37	Head 9
Zone 38	Hose 10
Zone 39	Head 10
Zone 40	Hose 11
Zone 41	Head 11
Zone 42	Hose 12
Zone 43	Head 12
Zone 44	Aux 9
Zone 45	Aux 10
Zone 46	Aux 11
Zone 47	Aux 12
Zone 48	Pre-Melt Grid 6

DynaControl Drum Unloader DM55

Zone 1	Platen - Face
Zone 2	Aux 1
Zone 3	Aux 2
Zone 4	Pump Block
Zone 5	<unused>
Zone 6	Hose 1
Zone 7	Head 1
Zone 8	<unused>
Zone 9	<unused>
Zone 10	Hose 2
Zone 11	Head 2
Zone 12	<unused>
Zone 13	<unused>
Zone 14	<unused>
Zone 15	<unused>
Zone 16	Platen - Core

DynaControl Pail Unloader DM5

Zone 1	<unused>
Zone 2	<unused>
Zone 3	<unused>
Zone 4	Pump Block
Zone 5	<unused>
Zone 6	Hose 1
Zone 7	Head 1
Zone 8	<unused>
Zone 9	<unused>
Zone 10	Hose 2
Zone 11	Head 2
Zone 12	<unused>
Zone 13	<unused>
Zone 14	<unused>
Zone 15	<unused>
Zone 16	Platen - Core

DynaControl LC-Melter

Zone 1	Pre-Melt Grid 1
Zone 2	Pre-Melt Grid 2
Zone 3	Pre-Melt Grid 3
Zone 4	Pre-Melt Grid 4
Zone 5	Pre-Melt Grid 5
Zone 6	Pre-Melt Grid 6
Zone 7	Pre-Melt Grid 7
Zone 8	Pre-Melt Grid 8
Zone 9	Pre-Melt Grid 9
Zone 10	Pre-Melt Grid 10
Zone 11	Pre-Melt Grid 11

Zone 12	Pre-Melt Grid 12
Zone 13	Pre-Melt Grid 13
Zone 14	Pre-Melt Grid 14
Zone 15	Pre-Melt Grid 15
Zone 16	Pre-Melt Grid 16
Zone 17	Hopper
Zone 18	Filter Block
Zone 19	T-Block
Zone 20	Inlet Block
Zone 21	Die-Block
Zone 22	Aux 1
Zone 23	Aux 2
Zone 24	Aux 3
Zone 25	Aux 4
Zone 26	Aux 5
Zone 27	Aux 6
Zone 28	Aux 7
Zone 29	Aux 8
Zone 30	Aux 9
Zone 31	Aux 10
Zone 32	Aux 11
Zone 33	Aux 12
Zone 34	Aux 13
Zone 35	Aux 14
Zone 36	Aux 15
Zone 37	Aux 16
Zone 38	Hose 1
Zone 39	Head 1
Zone 40	Hose 2
Zone 41	Head 2
Zone 42	Hose 3
Zone 43	Head 3
Zone 44	Hose 4
Zone 45	Head 4
Zone 46	<unused>
Zone 47	<unused>
Zone 48	<unused>

DynaControl - EtherNet/IP Data Tags

		7/30/2018	DynaControl - EtherNet/IP Data Tags
		V6	IN Area (DynaControl to PLC)
Word Address	Function		
0	Reserved	Word	
1	Reserved	Word	
2	Global System Status	BIT0	Watchdog, toggles 0/1 every 0.5 second
		BIT1	Ready, 1 = System is Ready
		BIT2	Fault, 1 = System has Fault
		BIT3	Alarm, 1 = System has Alarm
		BIT4	Controller On, 1 = Controller is On
		BIT5	Standby, 1 = Controller is in Standby
		BIT6	Low Level, 1 = Hopper has low level
		BIT7	Pump Run, 1 = Pump is running, Pump #1
		BIT8..15	Pump Run, Pump #2..#9
3	Reserved	Word	
4	Global Line Speed	Word	0..1000 = 0..100.0% (typically 0-10V)
5	Actual Pressure #1	Word	0..1000 = 0..100.0 bar / 0..1500 = 0..1500 psi; if BIT15 is 1 then a transducer fault is present
6..13	Actual Pressure #2..9	Word	See word 5
14	Reserved	Word	
15..23	Actual Motor Speed #1..9	Word	0..1000 = 0..100.0rpm / Only valid if RPM Read-out is installed
24	Reserved	Word	
25	Last Successful Received Parameter Block ID	Word	
26	Reserved	Word	
27	Reserved	Word	
28	Read Parameter Block Type	Word	This word defines what is being transferred in Parameter Block. Word 28 has to be equal to Word 46
29	Read Parameter Block ID	Word	See on corresponding pages for Block description
30	Read Parameter # 1	Word	The content of this block is depending on the Block ID and can vary. See pages above for details.
31	Read Parameter # 2	Word	
32	Read Parameter # 3	Word	
33	Read Parameter # 4	Word	
34	Read Parameter # 5	Word	
35	Read Parameter # 6	Word	
36	Read Parameter # 7	Word	
37	Read Parameter # 8	Word	
38	Read Parameter # 9	Word	
39	Read Parameter # 10	Word	
40	Read Parameter # 11	Word	
41	Read Parameter # 12	Word	
42	Read Parameter # 13	Word	
43	Read Parameter # 14	Word	
44	Read Parameter # 15	Word	
45	Read Parameter # 16	Word	
46	Read Parameter Block Type		Has to be equal to word 28 to validate the parameter block
47..60	Reserved		

		7/30/2018	DynaControl - EtherNet/IP Data Tags
		V6	OUT Area (PLC to DynaControl)
Word Address	Function		
0	Reserved	Word	
1	Reserved	Word	
2	Global Control Word	BIT0	Controller On/Off, 1 = Controller ON
		BIT1	Standby On/Off, 1 = Standby On
		BIT2	
		BIT3	Fault Acknowledge, 1 = ACK
		BIT4	
		BIT5	Watchdog, has to be toggled ~1 per sec.
		BIT6	
		BIT7	Pump Run, 1 = Pump start, Pump #1
3	System Control Word	BIT8..15	Pump Run, Pump #2..9
		BIT0	1 = Bus Module takes control of Global System Bits
		BIT1	1 = Bus Module takes control of System Wide Line Speed
		BIT8	0 = SI-units (°C / Bar) 1 = imperial units (°F / PSI)
		BIT10..15	1 0 r r r r , Recipe Selection, r r r r = Recipe number 1-10
		4	Global System Line Speed
		Word	0..1000 = 0..100.0%,
		5	Motor Set Point, Motor #1
		Word	BIT15 = 1: Automatic Mode is active BIT15 = 0: 0..1000 = 0..100.0%,
		6..13	Motor Setpoint #2..9
		Word	See word 5
14	Read Parameter Block Type	Word	
15	Read Parameter Block ID	Word	
16	Custom Read Parameter Block Start Address	Word	
17	Custom Read Parameter Block Length	Word	1..16
18	Write Parameter Block Type	Word	
19	Write Parameter Block UID	Word	
20	Custom Write Parameter Block Start Address	Word	
21	Custom Write Parameter Block Length	Word	1..16
22	Write Parameter #1	Word	The content of this block is depending on the Block ID and can vary. See pages above for details.
23	Write Parameter #2	Word	
24	Write Parameter #3	Word	
25	Write Parameter #4	Word	
26	Write Parameter #5	Word	
27	Write Parameter #6	Word	
28	Write Parameter #7	Word	
29	Write Parameter #8	Word	
30	Write Parameter #9	Word	
31	Write Parameter #10	Word	
32	Write Parameter #11	Word	
33	Write Parameter #12	Word	
34	Write Parameter #13	Word	
35	Write Parameter #14	Word	
36	Write Parameter #15	Word	
37	Write Parameter #16	Word	
38	Write Parameter Block Type	Word	Has to be equal to word 18 to validate the parameter block
39..60	Reserved		