

# Industrial Automation

IMI Norgren

IO-Link Interface Description VP50  
Proportional Valve



Breakthrough  
engineering for  
a better world

## Operation Manual

**Before starting work read these instructions.**

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**Table of Contents**

Device Variants	3
Communication	4
Parameter Overview	5
System Commands	6
Identification	7
Observation	8
Parameter	9
Diagnosis	10
Events	11

## Device Variants

<b>VP5002BJ511H00</b> Proportional Pressure Control Valve, 2 bar, G 1/4	
<b>VP5002BK511H00</b> Proportional Pressure Control Valve, 2 bar, NPT 1/4	
<b>VP5002BX511H00</b> Proportional Pressure Control Valve, 2 bar, Manifold	
<b>VP5006BJ511H00</b> Proportional Pressure Control Valve, 6 bar, G 1/4	
<b>VP5006BK511H00</b> Proportional Pressure Control Valve, 6 bar, NPT 1/4	
<b>VP5006BX511H00</b> Proportional Pressure Control Valve, 6 bar, Manifold	
<b>VP5010BJ511H00</b> Proportional Pressure Control Valve, 10 bar, G 1/4	
<b>VP5010BK511H00</b> Proportional Pressure Control Valve, 10 bar, NPT 1/4	
<b>VP5010BX511H00</b> Proportional Pressure Control Valve, 10 bar, Manifold	

**Communication**

Vendor ID	0x03AE, 942 d
Device ID	0x00000010, 16 d
Bit Rate	COM3
Minimum Cycle Time	3000
SIO Mode Supported	No
Block parameterisation	Yes
Data storage	No
Supported profiles	Identification and Diagnosis

For further information please see datasheet.

## Parameter Overview

Parameter	Index	Subindex	Type	Factory setting
Vendor Name	16		StringT (64 bytes)	Norgren
Vendor Text	17		StringT (64 bytes)	www.norgren.com
Product Name	18		StringT (64 bytes)	VP50 Proportional Valve
Product ID	19		StringT (64 bytes)	
Product Text	20		StringT (64 bytes)	Proportional Pressure Control Valve, 6 bar, G 1/4
Serial Number	21		StringT (16 bytes)	
Hardware Revision	22		StringT (64 bytes)	2
Firmware Revision	23		StringT (64 bytes)	1.0.2.299
Application-specific Tag	24		StringT (32 bytes)	
Error Count	32		UIntegerT (16 bits)	0
Device Status	36		UIntegerT (8 bits)	
Detailed Device Status	37		ArrayT (64)	
Pressure Unit	64		UIntegerT (8 bits)	0
PID Proportional Gain	65		Float32T	
PID Integral Gain	66		Float32T	
PID Derivative Gain	67		Float32T	
Setpoint Ramp Rate	68		UIntegerT (32 bits)	0
Cycle Count	69		UIntegerT (32 bits)	
Current Power On Hours	70		UIntegerT (32 bits)	
Total Hours On	71		UIntegerT (32 bits)	
Total Error Count	72		UIntegerT (32 bits)	
Displayed Pressure Damping Time	73		Float32T	0.0
Communication Loss Failure Mode	74		UIntegerT (8 bits)	0
Span Calibration Adjustment	75		Float32T	0.0
Zero Calibration Adjustment	76		Float32T	0.0
Lower Pressure Limit	77		Float32T	
Upper Pressure Limit	78		Float32T	

System Commands

System Commands	Text	Description
130	Restore Factory Settings	

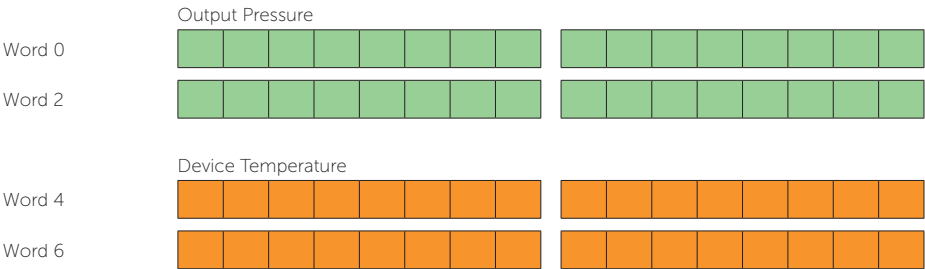
## Identification

Vendor Name	Index 16	Subindex 0	StringT (64 bytes)	ReadOnly
Factory setting	Norgren			
Vendor Text	Index 17	Subindex 0	StringT (64 bytes)	ReadOnly
Factory setting	www.norgren.com			
Product Name	Index 18	Subindex 0	StringT (64 bytes)	ReadOnly
Factory setting	VP50 Proportional Valve			
Product ID	Index 19	Subindex 0	StringT (64 bytes)	ReadOnly
Factory setting	Depends on variant			2
Product Text	Index 20	Subindex 0	StringT (64 bytes)	ReadOnly
Factory setting	Proportional Pressure Control Valve, 6 bar, G 1/4			
Serial Number	Index 21	Subindex 0	StringT (16 bytes)	ReadOnly
Factory setting				
Hardware Revision	Index 22	Subindex 0	StringT (64 bytes)	ReadOnly
Factory setting	2			0
Firmware Revision	Index 23	Subindex 0	StringT (64 bytes)	ReadOnly
Factory setting	1.0.2.299			
Application Specific Tag	Index 24	Subindex 0	StringT (32 bytes)	ReadWrite
Factory setting				0
Error Count	Index 32	Subindex 0	UIntegerT (16 bytes)	ReadOnly
Factory setting	0			

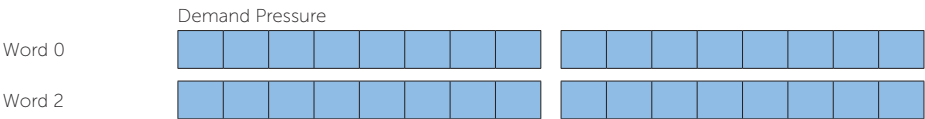
Observation

Process Data Input/Output

Process Data Inputs		Index 40	Subindex 0	RecordT (64 bits)
	Output Pressure			Float32T
	Device Temperature			Float32T



Process Data Outputs		Index 41	Subindex 0	RecordT (32 bits)
	Demand Pressure			Float32T
	Value range	(0.0 ... 10000.0)		Float32T



Please note: Siemens PLCs swap the high and low byte when using byte addressing



## Parameter

Pressure Unit	Index 64	Subindex 0	UIntegerT (8 bytes)	ReadWrite
Factory setting	0			
Options	0	bar		
	1	psi		
	2	kPa		
	3	kgcm2		
	4	atmospheres		
PID Proportional Gain	Index 65	Subindex 0	Float32T	ReadWrite
Factory setting	0			
Value Range	(0.0 ... 30.0)			
PID Integral Gain	Index 66	Subindex 0	Float32T	ReadWrite
Factory setting	0			
Value Range	(0.0 ... 15.0)			
PID Derivative Gain	Index 67	Subindex 0	Float32T	ReadWrite
Factory setting	0			
Value Range	(0.0 ... 5.0)			
Vendor Name	Index 68	Subindex 0	UIntegerT (32 bits)	ReadWrite
Factory setting	0			
Options	0	Level 1		
	1000	Level 2		
	3000	Level 3		
	6000	Level 4		
Cycle Count	Index 69	Subindex 0	UIntegerT (32 bits)	ReadOnly
Factory setting	0			
Current Power On Hours	Index 70	Subindex 0	UIntegerT (32 bits)	ReadOnly
Factory setting	0			
Total Hours On	Index 71	Subindex 0	UIntegerT (32 bits)	ReadOnly
Factory setting	0			
Total Error Count	Index 72	Subindex 0	UIntegerT (32 bits)	ReadOnly
Factory setting	0			

Displayed Pressure Damping Time		Index 73	Subindex 0	Float32T	ReadWrite
Factory setting		0			
Value Range		(0.0 ... 100.0)			
Communication Loss Failure Mode		Index 74	Subindex 0	UIntegerT (8 bits)	ReadWrite
Factory setting		0			
Options	0		Fail Zero		
	1		Fail Freeze		
Span Calibration Adjustment		Index 75	Subindex 0	Float32T	ReadWrite
Factory setting		0.0			
Zero Calibration Adjustment		Index 76	Subindex 0	Float32T	ReadWrite
Factory setting		0			
Lower Pressure Limit		Index 77	Subindex 0	Float32T	ReadOnly
Factory setting		0			
Upper Pressure Limit		Index 78	Subindex 0	Float32T	ReadOnly
Factory setting		0			
Function Tag		Index 124	Subindex 0	StringT (32 bytes)	ReadWrite
Factory setting		0			
Location Tag		Index 125	Subindex 0	StringT (32 bytes)	ReadWrite
Factory setting		0			

Diagnosis

Device Status		Index 36	Subindex 0	UIntegerT (8 bytes)	ReadOnly
Factory setting		0			
Options	0		Device is OK		
	1		Maintenance required		
	2		Out of specification		
	3		Functional check		
	4		Failure		
Detailed Device Status		Index 37	Subindex 0	ArrayT (64)	ReadOnly
Factory setting		0			

## Events

Code	Class	Name	Description
4096	Error	General malfunction	Unknown error
20480	Error	Device hardware fault	Exchange device
20497	Error	Non-volatile memory loss	Check batteries
20752	Warning	Primary supply voltage overrun	Check valid voltage range
20753	Warning	Primary supply voltage underrun	Check valid voltage range
25376	Error	Parameter error	Check datasheet and values
35840	Error	Technology-specific application fault	Reset device
35856	Warning	Process variable range overrun	Process data uncertain
35888	Warning	Process variable range underrun	Process data uncertain
6200	Error	Event 6200	Test event 6200 used for protocol testing.
6201	Error	Event 6201	Test event 6201 used for protocol testing.
6202	Error	IOLINK PHY FAULT	The IOLink transceiver IC asserted a fault signal.

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