



VMP EtherNet/IP™ Quick Start Guide

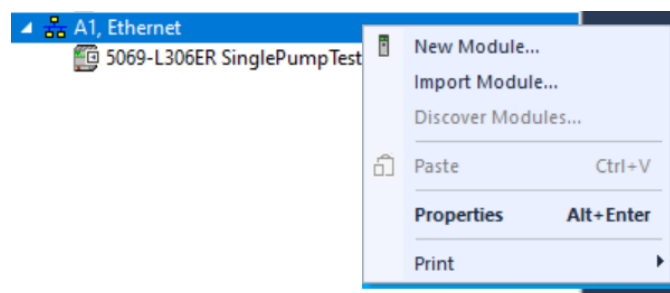
Abstract

This document is to be used by controls engineers and other technical personnel responsible for communications between programmable logic controllers (PLC's) and the variable metering pump (VMP) produced by Zaxis Inc. The document assumes the reader is well acquainted with EtherNet/IP™ as defined by the ODVA association. The reader should also have a good working knowledge of TCP/IP and UDP/IP protocols.

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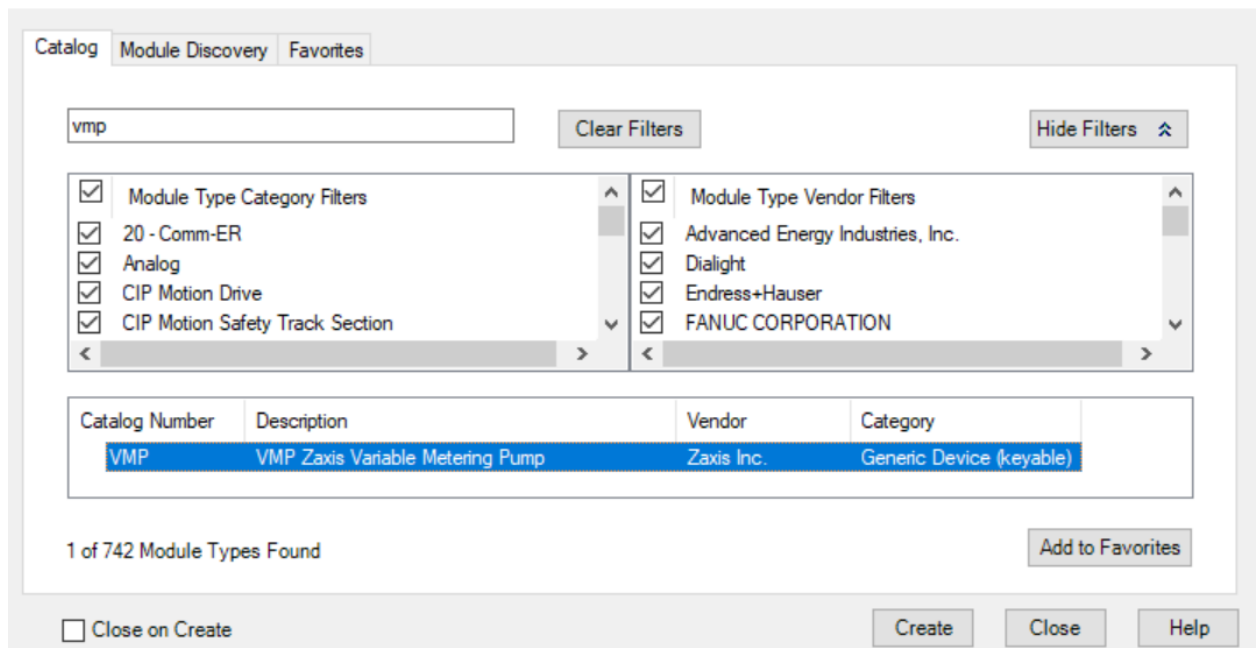
The following basic steps allow control engineers to create a simple ladder logic program that communicates with the variable metering pump (VMP) manufactured by Zaxis Inc. More detail can be found in the VMP_EtherNetIp document available for download by visiting the download page at www.zaxisinc.com. Sample PLC programs and EDS files can also be found at Zaxis download web site.

1. Obtain the EDS file from the Zaxis web page if one was not provided to when the pump was shipped/received. See: **Error! Hyperlink reference not valid..**
2. Import the EDS file using the *EDS Hardware Instillation Tool* contained within the Logix Designer from Rockwell Automation Technologies, Inc.
3. Create a New Module by right clicking under the existing Ethernet module.



4. Select the VMP as the module type, then click the Create button to create a VMP module.

Select Module Type



5. Fill in the module name and I/P address. The default I/P address of a VMP is 192.168.2.130.

New Module

General*
 Connection
 Module Info
 Configuration
 Internet Protocol
 Port Configuration

General

Type: VMP VMP Zaxis Variable Metering Pump
 Vendor: Zaxis Inc.
 Parent: Local
 Name: VMP_00
 Description:

Ethernet Address
☐ Private Network: 192.168.1.
☒ IP Address: 192 . 168 . 2 . 130
☐ Host Name:

Module Definition
 Revision: 1.004
 Electronic Keying: Compatible Module
 Connections: VMP I/O Connection
 Change ...

Status: Creating

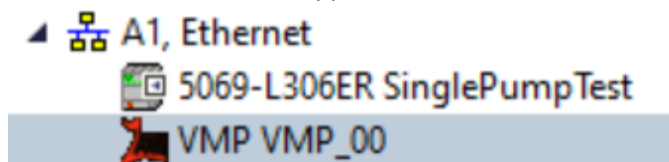
OK Cancel Help

6. The default connection parameters should be sufficient for the initial testing etc. If a significant number of pumps are being used, e.g., 10 or more, it is suggested that the RPI interval be increased to 50 ms or more to reduce network traffic.

Connection

Name	Requested Packet Interval (RPI) (ms)	Connection over EtherNet/IP	Input Trigger
VMP I/O Connection	20.0 10.0 - 9000.0	Unicast	Change of State

7. The new module should appear under the Ethernet module as shown below.



8. Create a simple ladder logic program as shown below.



9. When the Run contact is energized the pump should run.

Using the VMP modules outputs, as shown below, and contained in the VMP_Udts.xlsx document.

OkToRun	BOOL	Decimal	OkToRun	Read/Write	Ok to run pump
Start	BOOL	Decimal	Start	Read/Write	Run the pump
Abort	BOOL	Decimal	Abort	Read/Write	Abort pumping
DirectionCC	BOOL	Decimal	DirectionCC	Read/Write	Turn Counter Clockwise
ContinuousRun	BOOL	Decimal	ContinuousRun	Read/Write	Run continuously
SetMaxShotSize	BOOL	Decimal	SetMaxShotSize	Read/Write	Go to max shot size
SetShotSize	BOOL	Decimal	SetShotSize	Read/Write	Set volume to Volume
IgnoreCmds	BOOL	Decimal	IgnoreCmds	Read/Write	Ignore EtherNet I/P commands
IncFineAdj	BOOL	Decimal	IncFineAdj	Read/Write	Increment Fine Adjustment
DecFineAdj	BOOL	Decimal	DecFineAdj	Read/Write	Decrement Fine Adjustment
ResetRevsCnt	BOOL	Decimal	ResetRevsCnt	Read/Write	Reset current revolutions count to zero
SpareBit_11	BOOL	Decimal	SpareBit_11	Read/Write	Spare Bit
SetRevolutions	BOOL	Decimal	SetRevolutions	Read/Write	Set number of revolutions to turn
SetRpm	BOOL	Decimal	SetRpm	Read/Write	Set Speed/RPMs
ZeroFineAdj	BOOL	Decimal	ZeroFineAdj	Read/Write	Zero fine adjustment value
ZinchMode	BOOL	Decimal	ZinchMode	Read/Write	Run pump head forwards/backward
ClearFaults	BOOL	Decimal	ClearFaults	Read/Write	Clear fault flags
SetDesiredVolume	BOOL	Decimal	SetDesiredVolume	Read/Write	Set the desired volume
Spare18	BOOL	Decimal	Spare18	Read/Write	Spare Bit
Volume	DINT	Decimal	Volume	Read/Write	Shot size
SpareDInt1	DINT	Decimal	SpareDInt1	Read/Write	Spare
CurrentProgram	INT	Decimal	CurrentProgram	Read/Write	Program to run or -1
Revolutions	INT	Decimal	Revolutions	Read/Write	Number of pump head revolutions
Rpm	INT	Decimal	Rpm	Read/Write	Speed of pump head
FineAdj	INT	Decimal	FineAdj	Read/Write	Fine adj value -500 to 500
SpareInt1	INT	Decimal	SpareInt1	Read/Write	Spare
SpareInt2	INT	Decimal	SpareInt2	Read/Write	Spare

The pump shot size, direction of the head rotation etc. can be controlled. For more information, please see the VMP_EtherNetIP documentation or contact Zaxis support.