WOODWARD

Product Manual 26166V2
(Revision W, 1/2016)
Original Instructions

MicroNet™ Simplex Digital Control
MicroNet™ Plus Digital Control

This manual replaces manual 85584 for the MicroNet Simplex.

Manual 26166 consists of 2 volumes (26166V1 & 26166V2).

Installation and Operation Manual

Each LINKnet I/O module has two rotary switches that are used to set its network address. On installation, these switches must be dialed so that the I/O module's number, 1-60, matches the network address defined for this I/O module in the application program. The I/O modules may be placed in any order on the network, and gaps are allowed in the address sequence.

11.4—Hardware

Each network consists of one channel of a LINKnet controller module and many I/O modules. The I/O modules include thermocouple, RTD, 4-20 mA, and discrete input modules, as well as 4-20 mA and relay output modules. All of the analog modules consist of six channels per module. The relay output module contains eight channels and the discrete input module has 16 channels.
Each I/O module is housed in a plastic, field termination module type package for DIN rail mounting. The LINKnet I/O modules can be mounted in the control cabinet or in any convenient location in the vicinity of the prime mover that meets the temperature and vibration specifications. The LINKnet system accommodates hot-replacement of faulty nodes.

11.5—Four Channel LINKnet Controller Module

11.5.1—Module Description

The Four Channel LINKnet Controller module acts as a network master for each network channel. It performs various scaling and linearization operations and controls the flow of data between the CPU module and the I/O nodes. It determines the health of the nodes by comparing read back values to requested values on output nodes, and by checking the reference test value on analog input nodes.

Figure 11-1—Four Channel LINKnet Controller Module

13.2.3—Dataforth FTM

[Shown without I/O modules installed]

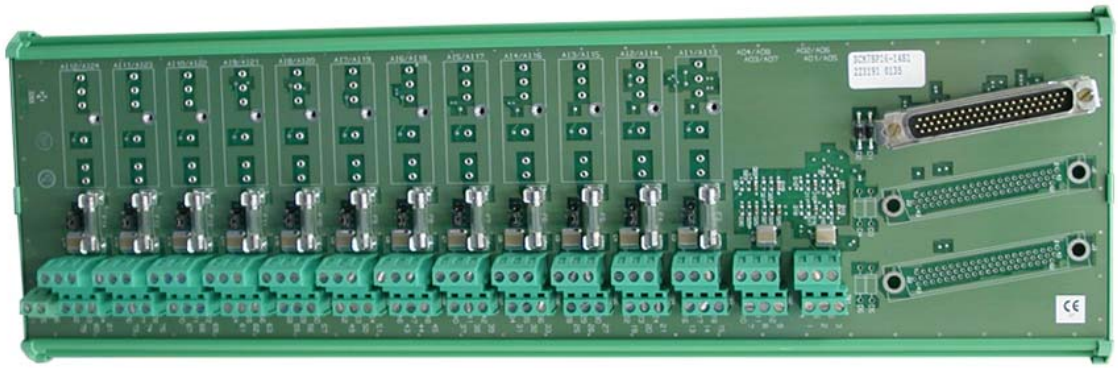

Figure 13-7—Dataforth FTM

The Dataforth FTM is used with the Dataforth Module (see Chapter 9 MicroNet module information and Appendix A for FTM part number). One MicroNet High Density Analog/Discrete cable is use to connect the FTM with the Dataforth Module (see Appendix A for part numbers). Each FTM has twelve analog input and four analog output channels. Each input channel is individually configurable via a plug-in standard isolated Dataforth SCM7B converter that has been modified to meet Woodward's bandwidth and input temperature range requirements. Each module can plug into any of the 12 channels on the FTM. Each plug-in module converts the incoming signal to a 1 to 4 volt signal. No Calibration is required on the FTM or its plug-in modules. The plug-in modules are powered directly through the cable connector; resulting in no need for external power connections to the FTM. There are twelve +24 Vdc connections available for sourcing 4–20 mA inputs. Each connection is protected with a 0.1 A fuse (F3 – F14). Jumpers P3 through P1 are used to configure the module for self-powered or loop-powered setups. See Chapter 9 for proper jumper configurations.

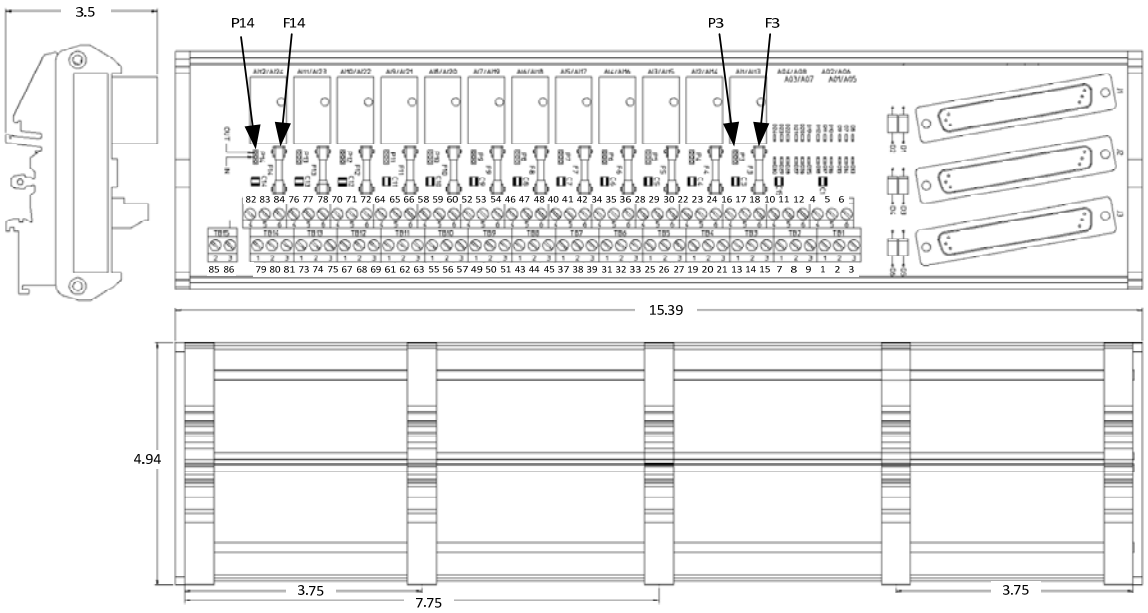

Figure 13-8—Dataforth FTM Outline Dimensions

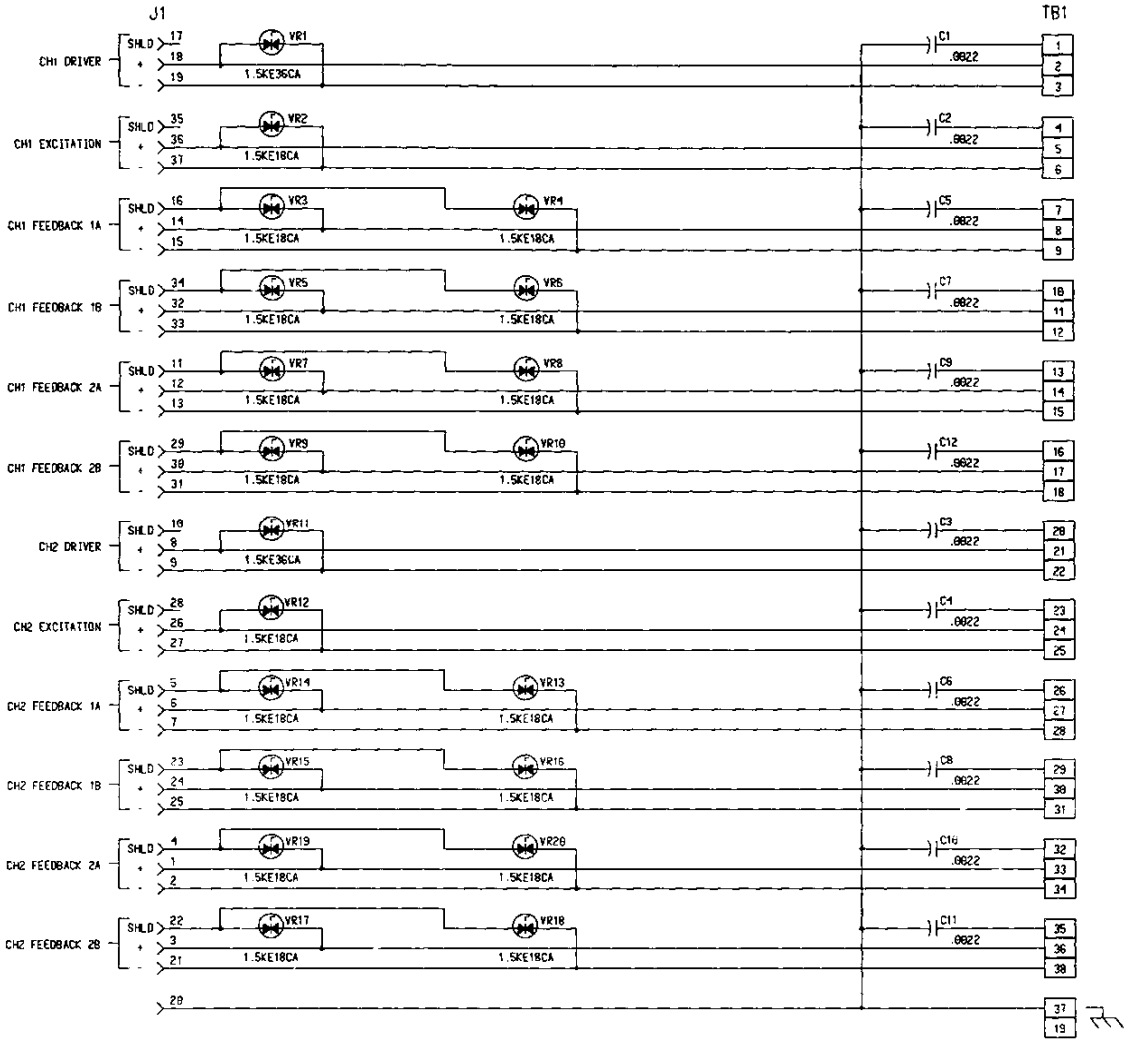

Figure 13-17—2Ch Actuator Output FTM Schematic

13.2.6—Analog Input FTM

The Analog Input FTM is used with MPU, 4-20 mA input, 4-20 mA output, voltage input, voltage output, RTD, Pressure input, and overspeed switch modules. (See Chapter 9 MicroNet module information and Appendix A for FTM part number). One MicroNet Low Density Analog cable is use to connect the FTM with the Analog modules (see Appendix A for part numbers).

Figure 13-18— Analog Input FTM

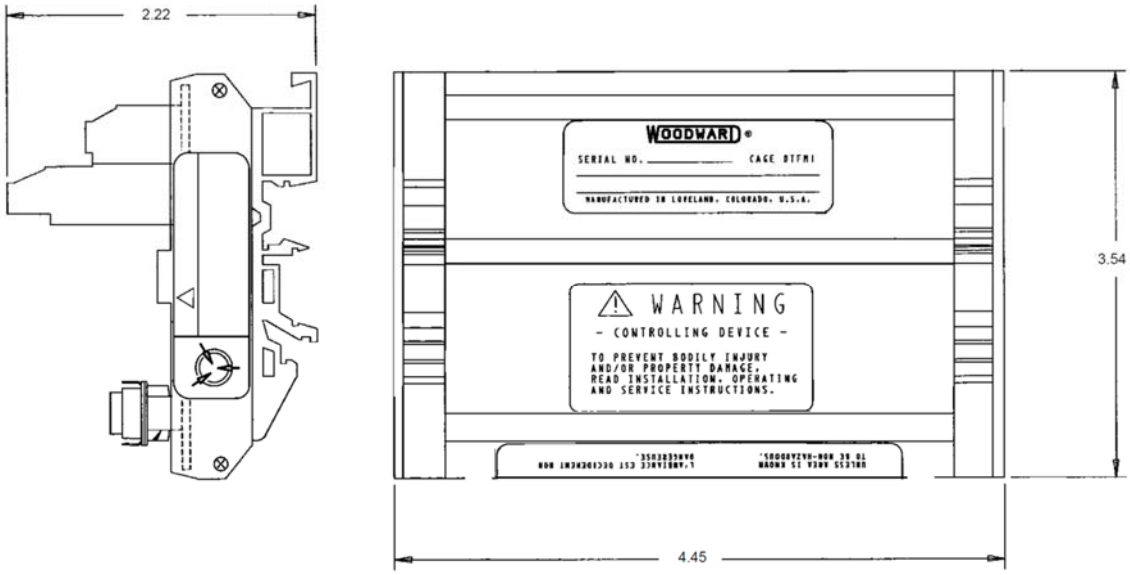

Figure 13-19—Analog Input FTM Outline Dimensions

13.2.9—Non-Standard Analog Input FTM

The Non-Standard Analog Input FTM is used with Non-Standard 8Ch Current Input module (see Chapter 9 MicroNet module information and Appendix A for FTM part number). The FTM has 8 current input channels with the output of channel 7 feeding a derivative circuit which in-turn is fed back into channel 8's input. Originally, this derivative signal was used for detection of Combustor Discharge stall Pressures in turbines, but can be used for monitoring other rate of changes in the channel 7 input transducer. The first seven channels may be connected to current transducers. Channels 1 through 6 are standard 0–25 mA inputs with standard frequency response. The derivative circuit consists of two adjustable potentiometers that are factor set. Do not adjust these potentiometers. One MicroNet Low Density Analog cable is used to connect the FTM with the Non-Standard 8Ch Current Input module (see Appendix A for part numbers).

Figure 13-27— Non-Standard Analog Input FTM

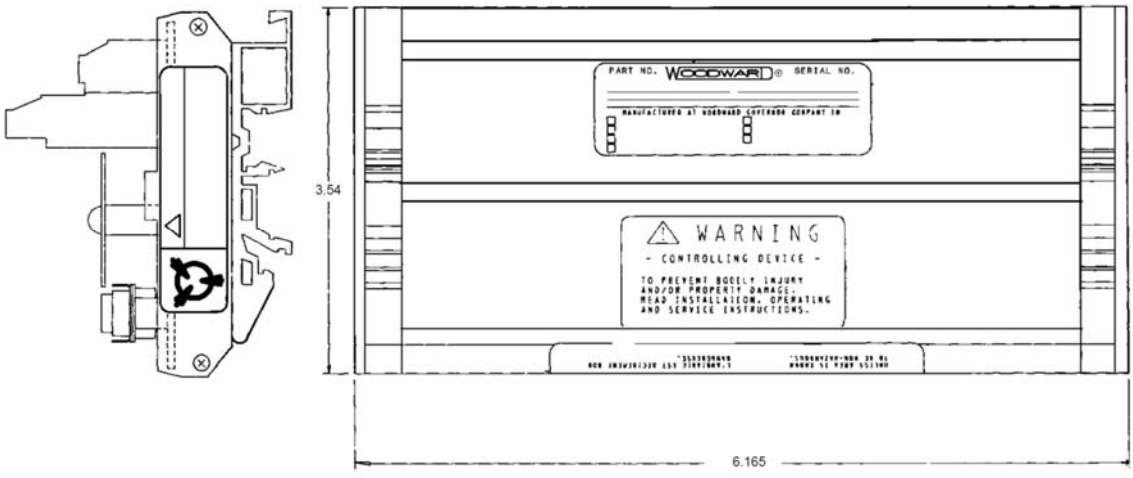

Figure 13-28—Non-Standard Analog Input FTM Outline Dimensions

Part No	Status	Description	Extended Description	CSA	UL	ATEX	CE (LVD)	CE (EMC)	ABS	DNV	LRS
9905-968	A	MODULE	LINKNET 6 CHANNEL 4-20 MA IN		x	x	n/a	x	x	x	x
9905-969	A	MODULE	LINKNET 6 CHANNEL 4-20 MA IN W/ 24 V		x	x	n/a	x	x	x	x
9905-970	A	MODULE	LINKNET 6 CHANNEL 100 OHM RTD		x	x	n/a	x	x	x	x
9905-971	A	MODULE	LINKNET DISCRETE IN		x	x	n/a	x	x	x	x
9905-972	A	MODULE	LINKNET 6 CHANNEL 4-20 MA OUT		x	x	n/a	x	x	x	x
9905-973	A	MODULE	LINKNET DISCRETE OUT		x	x	n/a	x	x	x	x
9907-072	A	Power Supply	SGL Out 18-32 VDC NetCon	x			x	x	x	x	x
9907-073	A	Power Supply	Multi Out 18-32 VDC NetCon	x			x	x	x	x	x
9907-074	A	Power Supply	SGL Out 42-60 VDC NetCon	x			x	x	x	x	x
9907-075	A	Power Supply	Multi Out 42-60 VDC NetCon	x			x	x	x	x	x
9907-076	A	Power Supply	SGL Out 120 VAC/DC NetCon	x			x	x	x	x	x
9907-077	A	Power Supply	Multi Out 120 VAC/DC NetCon	x			x	x	x	x	x
9907-078	A	Power Supply	SGL Out 220 VAC/DC NetCon	x			x	x	x	x	x
9907-079	A	Power Supply	Multi Out 220 VAC/DC NetCon	x			x	x	x	x	x
9907-205	A	Programmer	Hand Held, CE Compliant, 4 Piece Kit				x	x	x		

Updated Sep 15, 2015 (File 00372-04-07-01.xlsx)

Status	Definition
A	Active
ANP	Active, Non-preferred
AS	Active Service
INA	Inactive