



HMI Technical Data					
Description	B-4	B-6*	C-6	C-8	C-10
Screen Size	4"	6"	6"	8"	10"
LCD Module	STN LCD			TFT LCD	
Resolution	320 x 240			640 x 480	
Screen Type	Blue Mode	Blue Mode (Standard)	Color (Optional)	Color (Optional)	Color (Optional)
Function keys	4			6	7
Processor	32-bit RISC Micro-controller / 206.4 MHz				
NOR flash ROM	2 MB	4 MB		8 MB	
SDRAM	4 MB	16 MB		32 MB	
Backup Memory (Bytes)	128K				
USB Port	External Memory, Printer, Data transfer, download	Software download	Software download	External Memory, Printer, Data transfer, download	
Smart Media Card slot	N/A	External Memory			
Serial Com Ports	1	2			
Real time clock and calendar	Yes				
Communication	RS-232, RS-485, RS-422				
Protocol	Modbus				
Operating Temperature	32°-122°F				
Approvals	IP45 / NEMA 4X / CE / UL				
Buzzer	85 dB				

PLC Technical Data		
Description	B-14 (Standard)	PA10 (Optional)
Program language	Commands + Ladder logic + SFC	
Execution speed	Basic commands - 2 m seconds minimum	
Program capacity	3792 Steps	7920 Steps
Data Memory Capacity (bits)	1280 bits	4096 bits
Data Memory Capacity (words)	744 words	5000 words
Floating point	Yes	Yes
SFC Commands	128 steps	1024 steps
Timers	128 (1ms-100ms)	256 (1ms-100ms)
Counters	128 (16 bit / 32 bit / up / down)	250 (16 bit / 32 bit / up / down)
High speed counters	13	20
Pulse output	2 channels, 10 kHz Max	2 channels, 50 kHz Max
Master control loop	8 loops	8 loops
Subroutines	64	256
Interrupts	6	15
Real-time clock / calendar	N/A	Built-in
Specialty Expansion Modules	8 (Analog IN / OUT, TC, RTD, PT) Modules do not count in total I/O	
Maximum I/O	256 (128 IN / 128 OUT) Any number of modules	
Built-in I/O	14 (Digital 8 IN / 6 OUT)	10 (Digital 4 IN / 2 OUT, Analog 2 IN / 2 OUT)
Serial ports	2 (RS-232, RS-485)	
Communication protocol options	Modbus, DeviceNet, Profibus, BACnet, LONworks	

* B6 is standard on all controllers.

REPRESENTED BY:



TIGERFLOW, Your Expert Source For Engineered Systems...

Total System: Design, Specification & Manufacturing

Total System Third Party UL/C-UL Certified

NSF/ANSI 61 approved Systems available

UL/C-UL 508 Panels

ASME Code Section 9 Welding

Factory Tested

Single Source Responsibility

International Sales & Service Network



Engineered Systems to the World
 4034 Mint Way • Dallas, TX 75237
(800) 783-6756
 Tel: (214) 337-8780 • Fax: (214) 333-2742
 www.TIGERFLOW.com
 E-mail: sales@TIGERFLOW.com



TIGER'S EYE Controllers

Microprocessor Based, Solid State Programmable Logic Controller for Packaged Pump Systems

State-of-the-Art System Control:

- Mark II Pressure Booster - Constant Speed
- Mark III Tank Level
- Mark IV HVAC Multi-Zone - Constant Speed
- Mark V Pressure Booster - Variable Speed
- Mark VI HVAC Multi-Zone - Variable Speed
- Mark VII Chiller/Boiler Sequencing - Variable Speed
- Mark VIII Data Center

Typical applications include:

- Constant Speed Water Boosters
- Variable Speed Water Boosters
- Level Control
- Constant Speed HVAC Loops
- Variable Speed HVAC Loops
- Data Center Pumping Loops
- Condenser Water Pumps
- Chiller/Boiler Sequencing





TIGER'S Eye State-of-the-Art Microprocessor Based, Solid State Programmable Logic Controller & Control Panel

TIGER'S EYE E-Series controller provides reliable, user friendly pump control at your fingertips. Each standard controller consists of a modular PLC and a touch screen HMI. Modular PLC construction allows custom programming and I/O configuration for any job requirement. Touch screen options include 4, 6, 8 and 10-inch monochrome and color HMI's. All controller settings are field adjustable via the HMI. Each controller provides data logging, and user definable multi-level (8) password security. Standard and custom programming is available for the follow control sequences:

- Pressure Sequencing
- Flow Sequencing
- Suction, Discharge Pressure
- Level Sequencing
- Best Efficiency
- Wire to Water Efficiency
- Variable Primary Control
- Primary/Secondary Control
- Chiller Sequencing
- Boiler Sequencing
- BTU Calculations & Sequences
- Variable Volume, Constant Speed
- Cooling Tower Control
- Automated Valve Control
- Temperature Control
- Data Logging
- Energy Management System Interface



TIGER'S EYE PANEL FEATURES:

- U.L. listed, TIGER'S EYE solid state, power & control panel
- U.L./C-U.L. 508 Label
- E-Series Pump Controller (see complete controller feature list, right)
 - PLC & HMI technology and permanent memory for all user setpoints
 - Blue scale touch screen operator interface
 - Individual PUMP RUN indicator(s)
- Alarm horn and reset button
- Panel mounted stainless steel pressure transducers: suction, discharge (Mark II & Mark V)

STANDARD TIGER'S EYE PANEL SPECIFICATIONS:

MEMORY

Programmable Permanent Main Memory

OPERATOR INTERFACE

Type 6" Monochrome Blue Scale Touch Screen

PLC

Input Voltage 24 VDC 200 MA
Connector Quick Connect Plugs

Outputs 12 - 4 Analog, 8 Digital with LED (44 max.)

Inputs 16 - 8 Analog, 8 Digital with LED (64 max.)

Operational Temp 0 - 50° C

STAINLESS STEEL PANEL MOUNTED PRESSURE TRANSDUCERS (Mark II & Mark V)

Input 9 - 30 VDC Unregulated

Output 4 - 20 mA

Range Multiple Range Settings Available

Over Pressure 2 Times Rating

Burst Pressure 5 Times Rating

Accuracy 1% of Full Scale

Operational Temp -40° to 85° C

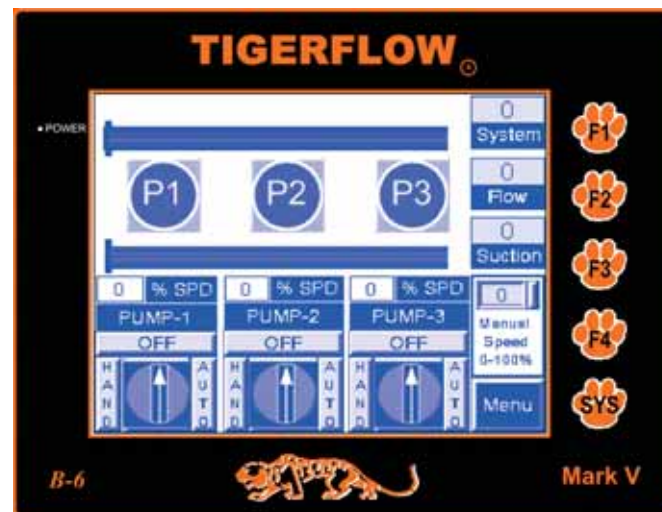
Material 17-4 Stainless Steel

Available Controller Options include:

- Flow Display (GPM standard, custom units available)
- Flow Switch
- Float Switch (Except on Mark IV, VI, VII, VIII)
- Individual Alarm Dry Contacts
- Pump Failure - DP Switches
- Telemetry - Local / Remote
- Pressure Signal Retransmission 4-20 mA
- Flow Signal Retransmission 0-10 V DC
- Power Monitor w/ Alarm
- Surge Suppression
- Multiple Power Feeds
- Serial Communication
- BAS Communication (ie. Modbus, BACnet, Devicenet, Profibus, LonWorks)
- Data Logging
- Wire to Water Efficiency
- Custom Programmed Features
- FLOW SEQUENCING (Requires optional flow sensor)
- FLOW TOTALIZATION (Requires optional flow sensor)
- Phase Monitor
- Lightning Arrestor
- 6, 8, 10" COLOR OPERATOR INTERFACE

Standard TIGER'S EYE Controller Packages							
	Mark II	Mark III	Mark IV	Mark V	Mark VI	Mark VII	Mark VIII
Function	Booster	Level	HVAC	Booster	HVAC	Chiller/Boiler	Data Center
Constant speed pumps	S	S	S				S
Variable speed pumps				S	S		S
PLC with touch screen HMI	S	S	S	S	S	S	S
Maximum pumps per controller*	4*	4*	4*	4*	4*	4*	4*
Tank level control		S					
System pressure transducer	S	S	S	S	E	!	!
Suction pressure transducer	S	S	S	S			
Differential pressure transducer			!		S		S
Flow sequencing	!	!	!	!	!	!	!
Float / Level switch	E	E	E	E			
Flow switch	E	E	!	E	!	!	!
Common alarm horn & dry contacts	S	S	S	S	S	S	S

* Custom programming available to accommodate more than 4 pumps.
S Standard feature
E Enabled Feature for field supplied switch
! Optional feature
N/A Not applicable



Panel mounted operator interface with 6" blue scale touch screen displays:

- System status
 - System Pressure
 - Suction Pressure
- Alarm status
 - Active Alarm(s)
- Pump run time(s)
- Flow Rates (Flow sensor required)

TIGERFLOW E-series Pump Controller combines the latest in PLC and HMI technology to provide the most reliable, user friendly pump control package available.

E-SERIES PUMP CONTROLLER FEATURES

- Touch screen operator interface
- HOA pump operation
- Pressure sequencing
- Flow sequencing (requires optional flow sensor)
- Flow totalization (requires optional flow sensor)
- Operator adjustable settings
 - Pump start / stop pressures
 - Pump start flows (for flow sequencing)
 - Pump ON and OFF delay times
 - Alarm settings:
 - Low suction pressure
 - Low system pressure
 - High system pressure
 - Individual alarm ON/OFF delays
 - Manual / Automatic alarm reset
 - Pump failure ON delay
 - High suction economy mode
 - Pump alternation
 - Automatic on lead pump shutdown
 - Daily / weekly / monthly
 - Manual alternation
- Separate alarm silence and reset push buttons
- Event history records last 10 system events including:
 - Pump start / stops
 - Alarm conditions
 - Alarm acknowledgement/silence
 - Alarm reset
 - Date & time of each event
 - Suction & system pressure transducers
- 8 password protected levels of security.
 - Passwords field changeable
- Touch safe DC power supply
- 24 V DC digital I/O
- Maximum 256 I/O points
- RS-485 2 wire half duplex or 4 wire full duplex available
- Network communication via Modbus, DeviceNet, Profibus, LonWorks, and Bacnet

