CONTROLS PLATFORM
FOR WEIGHING & FEEDING

THE INTELLIGENT EVOLUTION OF PROCESS EQUIPMENT

MERRICK

DAEDO

Genetix® has the flexibility to accommodate both simple and complex system configurations. With Genetix® you can choose where to add intelligence to your process and the best method to seamlessly integrate the information into your plant control system. You can adapt Genetix® to your system and application needs.

- Single Board Control provides smaller size while improving capabilities and performance.
- Superior Weighing Resolution of 16,000,000 Divisions (24-bit A/D Conversion)
- Based on latest embedded technology ARM Processor
- Programmable USB, RS-232 and RS-485 Serial Communications Ports
- Fully equipped with Analog and Digital Inputs and Outputs (Pluggable Terminals)
- Available in a multitude of NEMA and IP Rated Enclosures

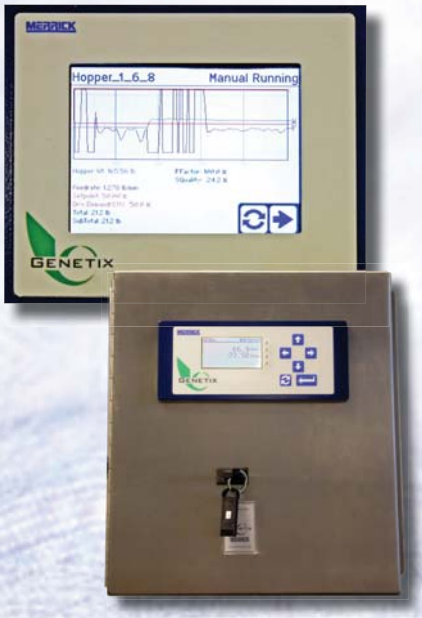
PROCESS DEVICE

Belt Feeder
Belt Batcher
Loss-in-Weight Feeder
Weigh Out Batcher
Belt Scale
Bulk Bag System
Flowmeter
Bin Weigher

WORKS WITH

USER INTERFACE

Color Touch Interface
LCD Membrane
Wireless



WORKS WITH

INDUSTRIAL NETWORKING

Ethernet
Modbus
PROFIBUS®
DeviceNet™
ControlNet™
Scalenet
DF-1

WORKS WITH

SUPERVISORY CONTROLS

DCS
HMI & PLC
Recipe Blend System

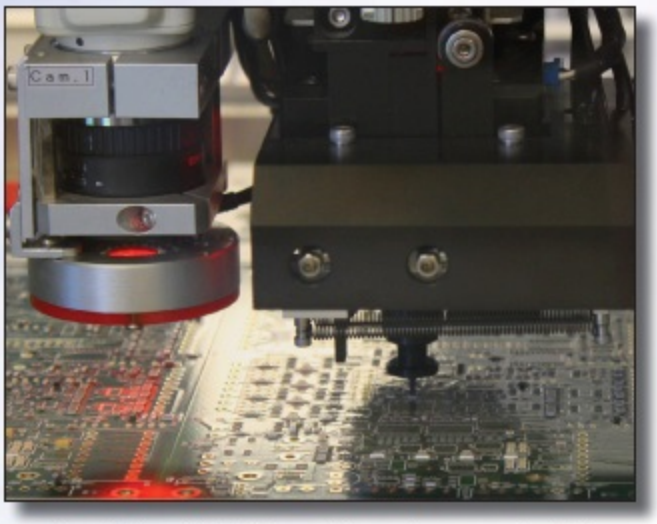
INTERNAL OR EXTERNAL DNA KEY INTERFACE

Portable memory key
Simple and easy to use
Store and reload set-up parameters
Store material characteristics

GENETIX® PORTABLE WIRELESS DISPLAY

Bluetooth® equipped
Full function user interface
Remote calibration and set-up
Rechargeable battery

MERRICK is unique in that we develop, produce and support our products within our company. For Genetix®, this even includes producing the intricate boards for the surface mount circuitry as well as mounting and the layout of other mechanical components.

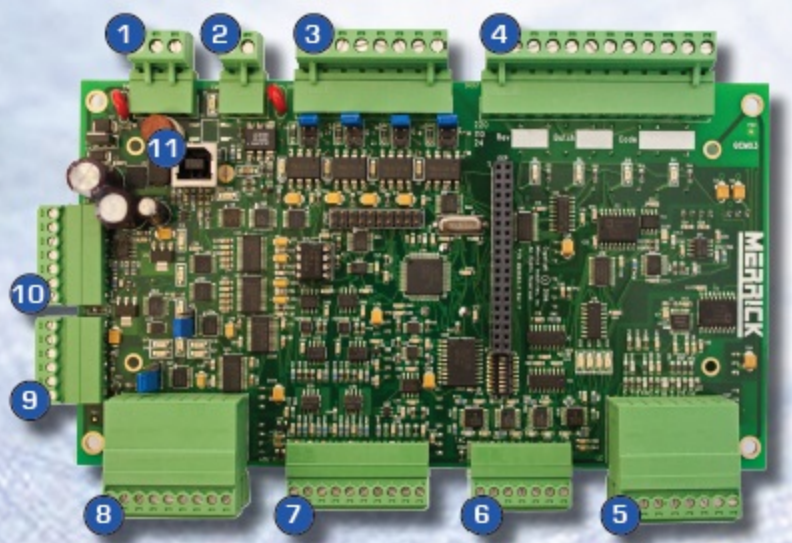


In addition, the software for the controller was developed by MERRICK engineers and programmed specifically for each weighing or feeding application. Our programmers rely on our more than 100 years of experience as a manufacturer of dynamic weighing equipment to ensure the software integrates with Genetix® hardware to provide the most effective solution for our customers' needs.

The stringent procedures followed for producing Genetix® ensure a quality product with an incredibly low failure rate in the field. Genetix® is aged in a climate-controlled chamber for an extended period of time while performance statistics are being collected by a computer network.

What this means to our customers is that MERRICK can provide Genetix® with superior reliability, expert support and the ability to adapt and refine Genetix® to match the needs of our customers.

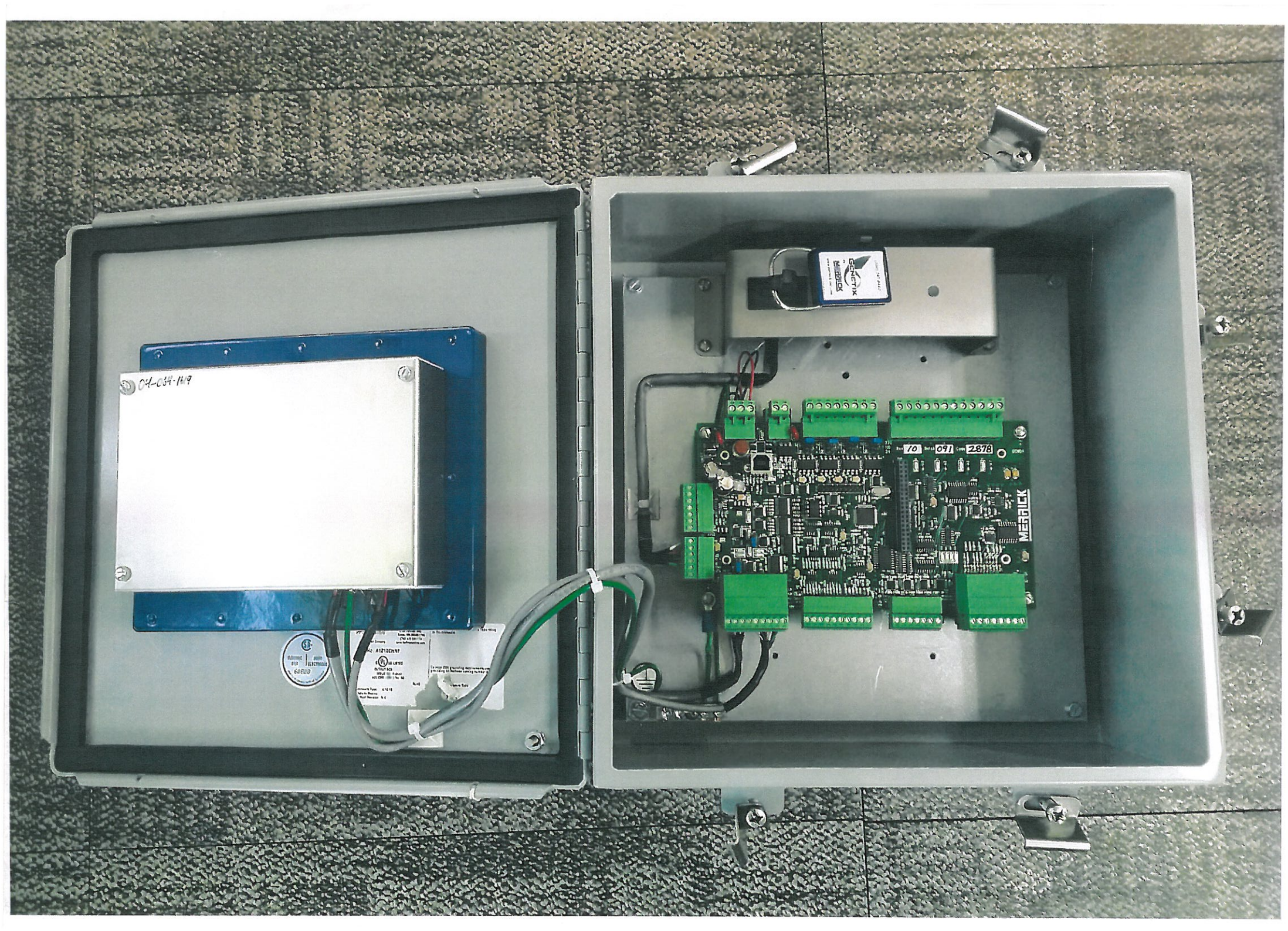
INSIDE THE GENETIX® CORE MODULE (GCM)



1. 24V DC POWER
2. REMOTE TOTALIZER OUTPUT
3. FOUR DIGITAL INPUTS
   24V DC / 120 / 240V AC
4. FOUR FORM C DIGITAL OUTPUTS
5. TWO LOAD CELL INPUTS
6. TWO ENCODER INPUTS
7. ANALOG I/O
   ONE IN / TWO OUT
8. TWO SERIAL PORTS
   RS232 / 422 / 485
9. DNA KEY INTERFACE
10. EXPANSION
11. USB TYPE B CONNECTOR

FAMILY OF
MERRICK
COMPANIES

10 ARTHUR DRIVE LYNN HAVEN, FL 32444 USA
CALL WORLDWIDE +1 850.265.3611
EN ESPAÑOL +1 850.271.7834
WWW.MERRICK-INC.COM


04-C84-1149
MESHLICK

FAMILY OF MERRICK COMPANIES

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+1 850.265.3611 WORLDWIDE
+1 850.271.7834 EN ESPAÑOL
WWW.MERRICK-INC.COM

Genetix Color Touch Screen Controller

Merrick Genetix Controller Assembly

1. Touch screen with menu system.
2. Home screen programmable to display two lines of engineering units
3. Each controller can be identified by equipment name.
4. Plug–n–Play panel installs in place of the existing CPU and alpha numeric display panel using the existing window kit.
5. Graphic screen to observe feeder performance.
    a. Set-point
    b. Feed rate
    c. Belt load
    d. CV demand to the speed controller
    e. Programmable time period.
    f. Back screen settings.

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6. Extensive diagnostic menus to view live processes and hardware.
    a. General process of feed rate and set-point values
    b. Load cell signal analysis for each channel.
        i. A/D counts
        ii. Millivolt values
        iii. Belt load values
        iv. Load cell differential offset
    c. Encoder process for each channel.
        i. Two encoders wired, differential span.
        ii. Pulse input for each channel.
    d. Hardware
        i. Complete on/off states of digital I/O logical and physical analysis.
        ii. Analog I/O status with A/D counts, percentage and numeric values and function.
    e. Diagnostic;
        i. CPU and Display operating temperatures.
        ii. Software versions
        iii. Duration of operation
7. One Touch Screen can integrate up to sixteen GCM controllers.
8. Controller Specification

-Model : GENETIX
-Power : 120 / 220V AC
-Output : DC 4~20mA
-Accuracy : ±0.5% Full Scale
-Two serial port : RS232/RS422/485
-Two load cell input
-Speed detector pulse input
- Protection grade : IP65
- Size : (W)10.00 x (D)7.87 x (H)13.50 inch

Genetix Specification Sheet

BELT

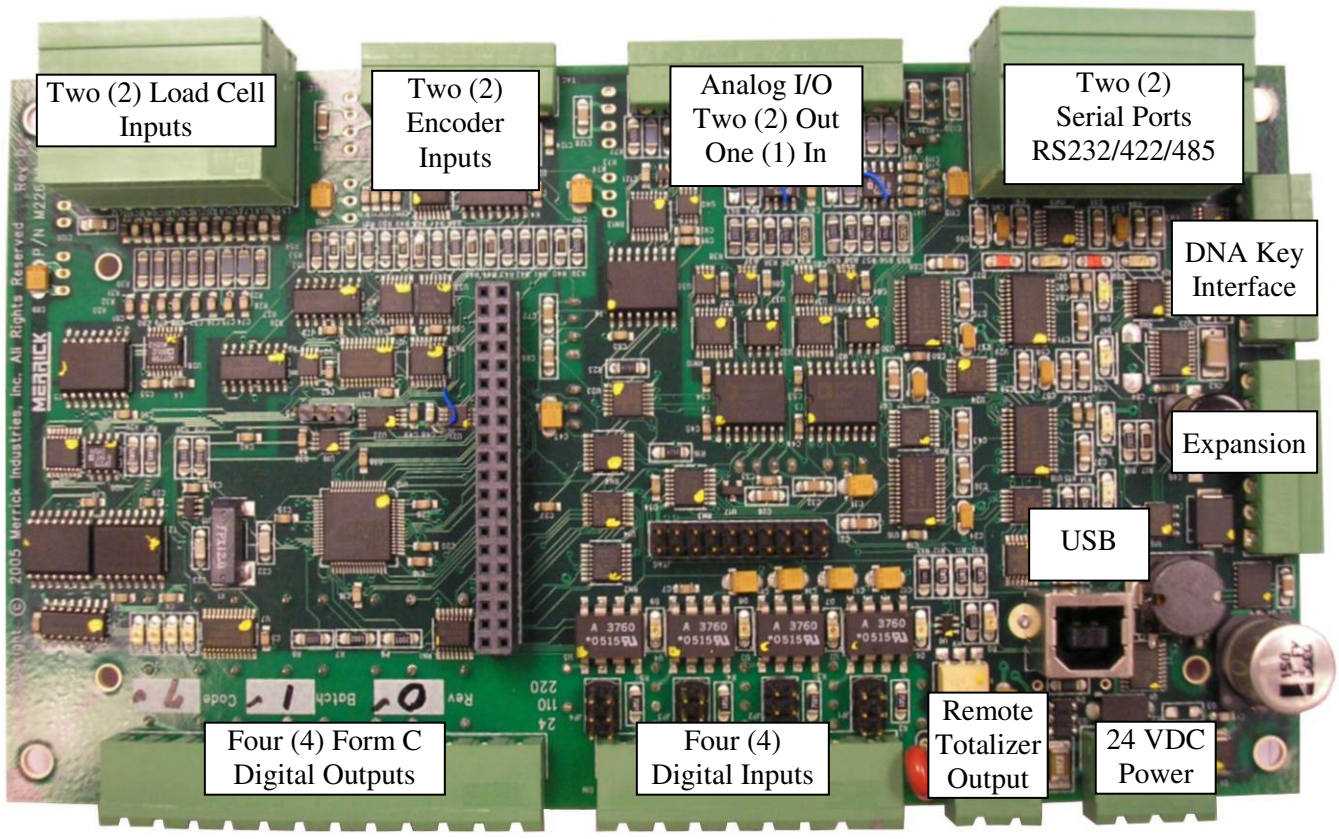
Ultimate Weigh Belt Application

Genetix was designed to be the ultimate intelligent device for belt weighing and feeding applications. Genetix can be used as a:

Belt Scale Integrator	Weighing, Totalization, Alarms for Belt Scales
Belt Weigher	Weighing, Totalization, Alarms for Integrated Belt Weighers
Belt Feeder Controller	Closed-loop feedrate control of integrated Weigh Belt Feeder.
Batching Controller	On-demand delivery of a set amount of material
Pre-Feeder Control	Control of feed device upstream of the Belt Weigher

Genetix Core Module (GCM) Single Board Processor

The basic building block of a Genetix System is the Genetix Core Module (GCM). This single board can be DIN-Rail Mounted or is available with a NEMA-Rated Enclosure for mounting directly on a feeder or scale conveyor.



Standard I/O:

- Four (4) Digital Outputs
- Four (4) Digital Inputs
- Two (2) Analog Outputs
- One (1) Analog Input

Optional (maximum) I/O:

- Thirty-two (32) Digital Outputs
- Thirty-two (32) Digital Inputs
- Four (4) Analog Outputs
- Two (2) Analog Inputs

Genetix Specification Sheet

BELT

Logical Inputs and Outputs

Each Logical I/O Function can be assigned (mapped) to a Physical Input or Output. This is true of both Analog and Digital I/O.

Commonly used Logical Digital Inputs:

- Run Permission
- Feeder Block
- Gravimetric Mode
- Print
- Belt Running
- Diverter Valve
- Start & Stop Batch

Commonly used Logical Digital Outputs:

- Faults
- Warnings
- Low & High Feedrate
- Good Feedrate
- Low & High Belt Load
- Belt Slippage
- Low & High Speed Limits

Commonly used Logical Analog Inputs:

- Feedrate Setpoint
- Belt Load Setpoint
- Panel Meter Level

Commonly used Logical Analog Outputs:

- Control to Signal Motor Drive
- Feedrate
- Belt Load
- Belt Speed
- Pre-Feed Control

Standard Communication Protocols:

- Merrick Scalenet Protocol
- Modbus ASCII
- Modbus RTU
- Allen Bradley DF-1

Optional Communication Interfaces:

- EtherNet (A-B and Modbus)
- DeviceNet
- ControlNet
- Profibus

DNA "Portable Memory" Key (option)

- Store/Load Program Values
- Store/Load Material Characteristics
- Record Real Time Process Data

Two DNA Keys and Genetix Receptacle Shown

BluMerik Bluetooth Wireless (option)

Provides wireless communications using the industry standard Bluetooth Interface.

This optional interface is required for operation with the Genetix Remote Display.

Internal or external antenna configurations are available.

Internal Antenna Shown

MERRICK	Genetix Specification Sheet	DISP

Display Options for Genetix Core Module (GCM)

The most common Genetix displays and configurations for use with the GCM are shown below.

LCD Panel Mount

Bluetooth Wireless Hand Held

Color Panel Mount

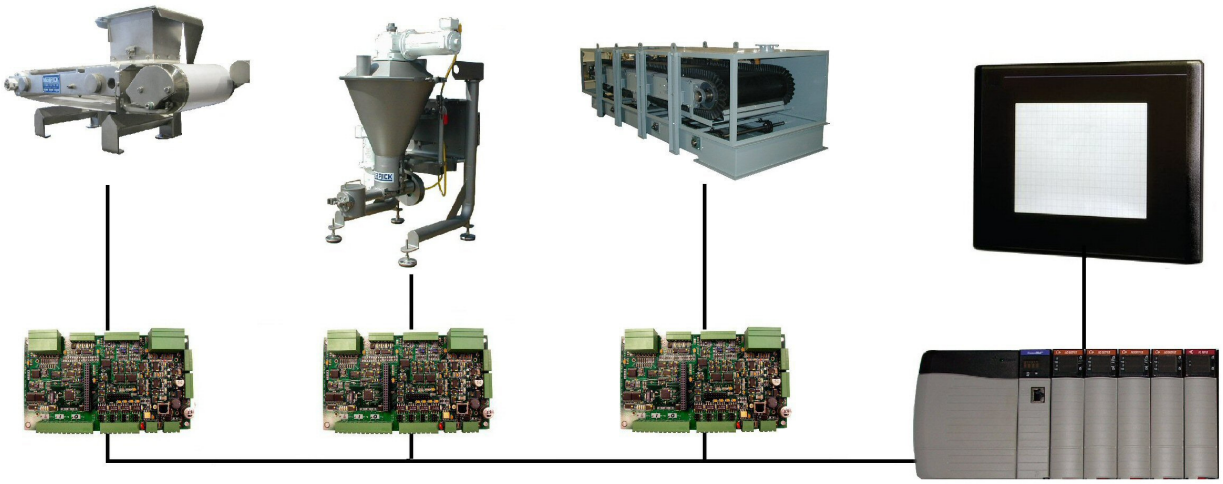
Color NEMA-4X Stainless

Color NEMA-4X Polyester

LCD NEMA-4X Stainless

No Display – Direct Connect

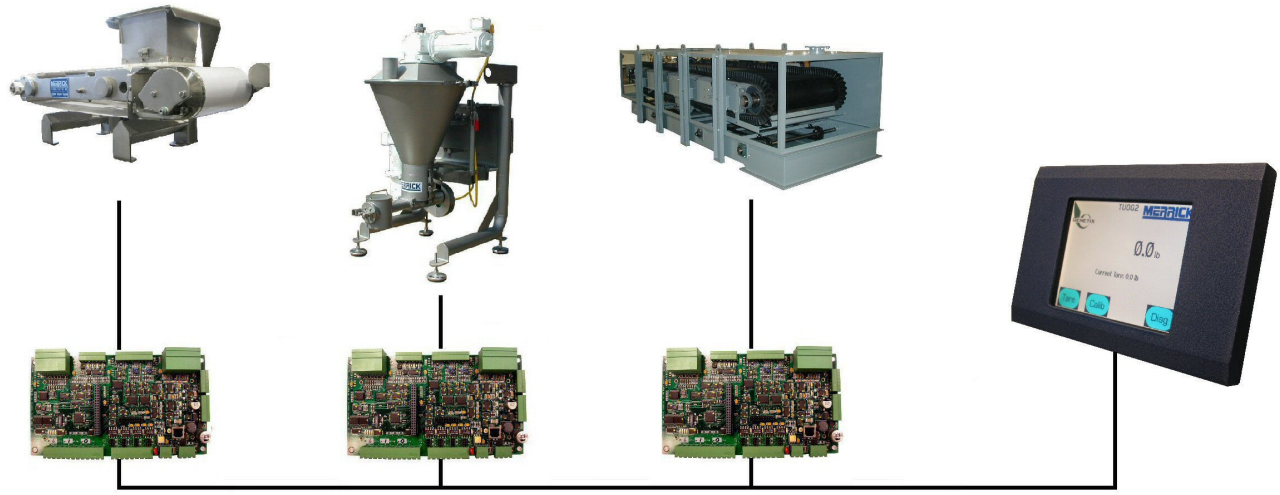
This configuration allows GCM(s) to be connected directly to a PLC, Computer or other intelligent device. Normally an industrial network option such as Ethernet I/P, Devicenet, Controlnet, etc. would be utilized to provide for full functionality.



Calibration and other Operator activities take place at the PLC/HMI Screen or with a Wireless Hand-Held Display.

Master Color Display

This configuration allows multiple GCMs to be connected to a single Genetix Color Display. The Color Display can address multiple GCM Boards. The operator can program, calibrate and monitor any of the GCMs connected to the display from a single physical location.

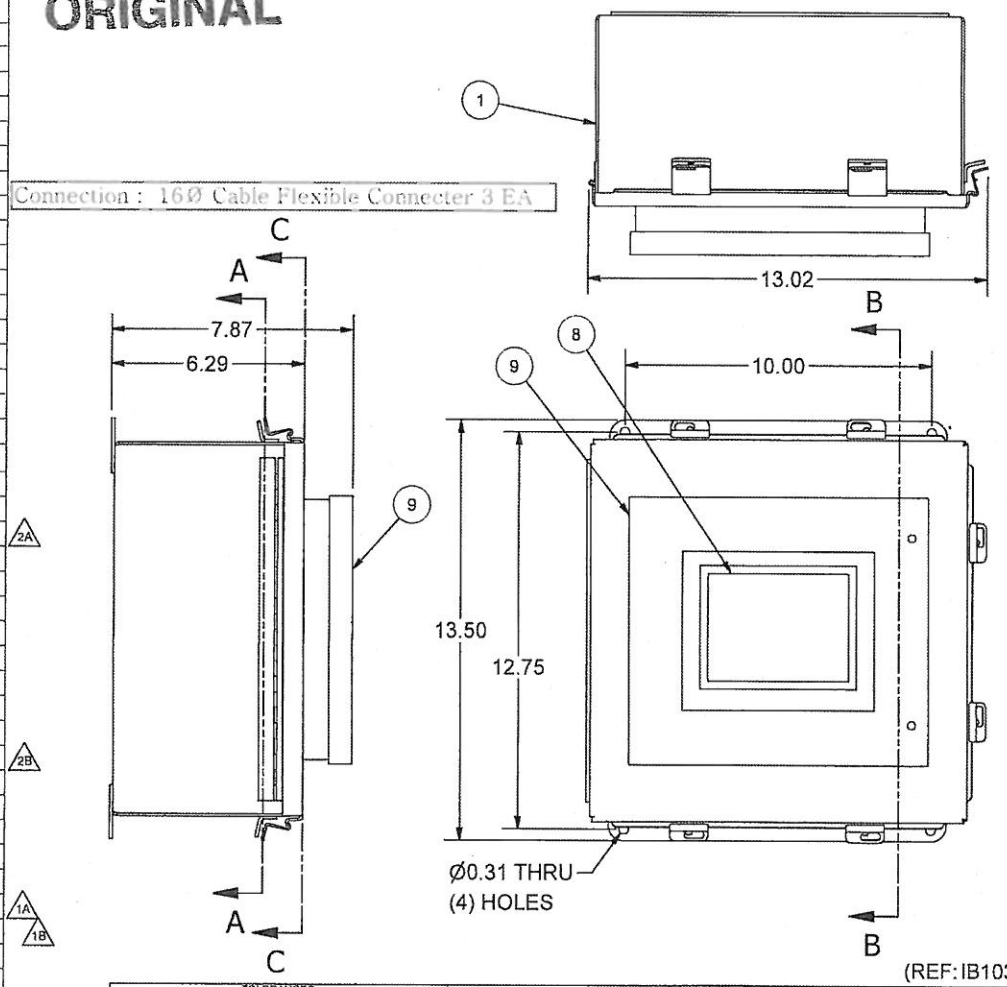


LCD or Color Display One-To-One with PLC

This configuration pairs each feeder with its own GCM and Display in an integrated assembly. This configuration allows for simultaneous operator access to each feeder as well as communications with a PLC/HMI. This configuration is often used when the feeders are physically separated by a large distance. Operation, Calibration and Diagnostics can all be present at the feeder itself.

P/N: IB103571-							
ITEM	QTY -1	QTY -2	QTY -3	QTY -4	QTY -5	PART NO.	TITLE
1	1	1	1	1	1	IB103570-1	ENCLOSURE MODIFICATION
2	1	1	1	1	1	IB103570-2	PANEL MODIFICATION
3	1	1	1	1	1	M22633-1	GENETIX CORE MODULE
4	1	1	1	1	1	M22746-2	GENETIX POWER BOARD
5	0	0	0	0	1	A46883-1	BRACKET DNA KEY RECEPTACLE
5	1	1	0	0	0	A46883-3	BRACKET DNA KEY
6	1	1	0	0	1	09-204-20803	CONN RECP HSG DNA KEY PNL MNT
7	1	1	0	0	1	N47017-4	CABLE, GCM TO DNA KEY
8	1	1	1	1	1	A47964-1	COLOR INTERFACE w/TOUCHPANEL
9	1	1	1	1	1	M21099-1	WINDOW KIT, NEMA 4
10	1	0	0	0	0	013142Z	SWITCH TOGGLE
11	4	4	4	4	4	15-601-50605	STAND OFF #6-32 x .37 LG
12	4	4	4	4	4	15-601-52001	STAND OFF #6-32 x 1.25 LG
13	1	1	1	1	1	FE11887	GROUND BAR, 4 WIRE
14	4	4	4	4	4	F328	SCREW, PAN HD #6-32 x .37 LG
15	8	8	8	8	8	F330	SCREW, PAN HD #6-32 x .5 LG
16	1	1	1	1	1	BF4170063722	SCREW PAN HD 10-32 X .75 SS304
17	4	4	0	0	4	F343	SCREW PAN HD #8-32 x 0.37 SS
18	2	2	2	2	2	BF4170062678	SCREW FL HD #6-32 x .25 SS
19	4	4	4	4	4	WMLP06	WASHER LOCK #06
20	8	8	8	8	8	F264	WASHER LOCK SS 18-8 #06
21	4	4	4	4	4	WMLSP06	WASHER LOCK INT TOOTH MACH #6
22	4	4	0	0	4	WMLP08	WASHER LOCK REG MACH PL #08
23	1	1	1	1	1	WMLP10	WASHER LOCK REG MACH PL #10
24	1	1	1	1	1	F1453	NUT HEX #10-32 SS
25	1	1	1	1	1	FE5040	RING TERMINAL
26	1 FT	1 FT	1 FT	1 FT	1 FT	FE2659	WIRE, 14 AWG GREEN
27	2 FT	2 FT	2 FT	2 FT	2 FT	14-301-02202Z	WIRE, 22 AWG RED
28	2 FT	2 FT	2 FT	2 FT	2 FT	14-301-02210Z	WIRE, 22 AWG BLACK
29	2 FT	2 FT	2 FT	2 FT	2 FT	FE9269	CABLE, 1 TWISTED PAIR
30	2 FT	2 FT	2 FT	2 FT	2 FT	FE14603	CABLE, 2 TWISTED PAIR
31	6 IN	6 IN	6 IN	6 IN	6 IN	FE14606	TUBE, HEAT SHRINK 3/32" ID
32	4	4	4	4	4	01-005-12001	RESISTOR, 200 OHM
33	4	4	4	4	4	FE12654	CABLE TIE
34	4	4	4	4	4	MISP06100000001	ANCHOR TIE
35	2	2	2	2	2	F2358	WASHER PANEL SCREW RETAINING
36	2	2	2	2	2	F2054	SCREW CAPTIVE PANEL TYPE
37	0	0	0	1	0	M22750-1	ANALOG DAUGHTER CARD PCB ASY
38	0	0	0	2	0	15-601-51002	STAND OFF #4-40 x .625 LG
39	0	0	0	2	0	121078	SCREW BND HD MACH BRS NKL PL #04-40 x .25
40	0	0	0	2	0	123048	NUT HEX BRS NKL PL 04-40
41	1	1	0	0	1	N46996-60	DNA KEY

ORIGINAL



(REF: IB103545)

REV	DRAWN BY	DATE	DESCRIPTION
2	BEIER	5-20-13	ADDED DNA KEY
1	GLR	4/16/10	ADDED ITEMS 34 & 35

TOLERANCES UNLESS OTHERWISE SPECIFIED

FRACTIONAL	DECIMAL
± 1/32"	.XX ± 0.03" .XXX ± 0.005"
ANGULAR	SURFACE ROUGHNESS
±0.5°	125

BREAK ALL CORNERS 0.005 TO 0.010R

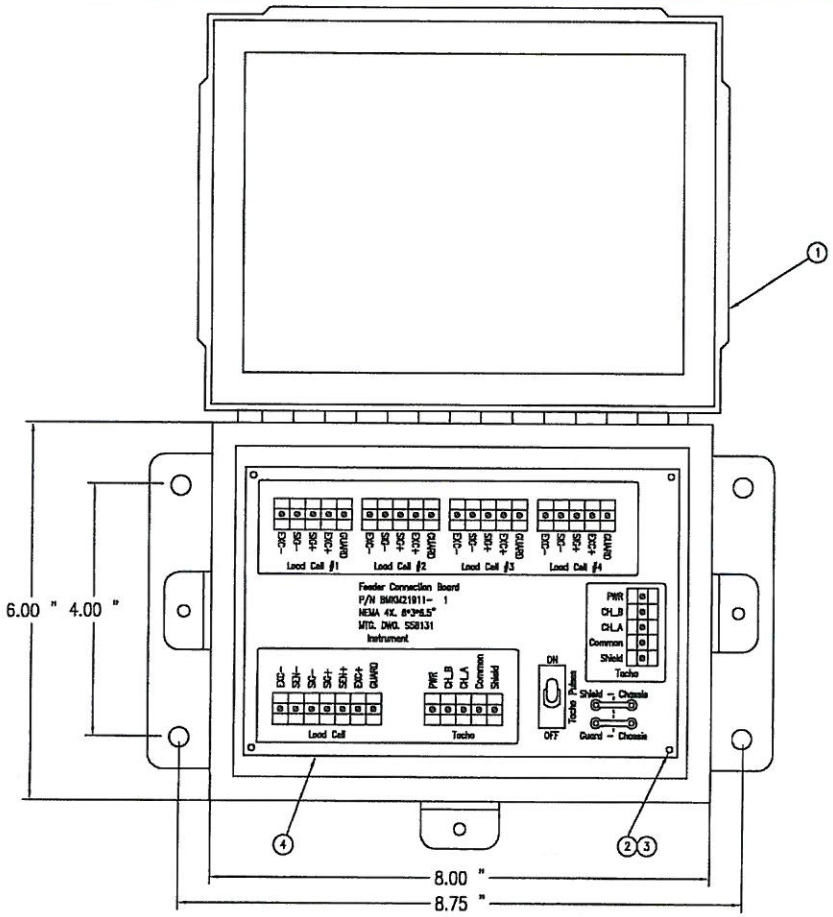
SHOP ORDER	M12911-000	
DRAWN	GLR	9/4/2009
CHECKED		
APPROVED		

MERRICK INDUSTRIES INC.
LYNN HAVEN, FLORIDA 32444
www.merrick-inc.com

TITLE: GENETIX WALL MT ASSEMBLY NEMA 4 W/ WINDOW KIT

SIZE	DWG NO	SCALE:	SHEET	REV
B	IB103571	1:4	1 OF 3	2

Connection : 16Ø Cable Flexible Connecter 6EA or 7EA(For ST-606)



⚠4								DP		
-8	-7	-6	-5	-4	-3	-2	-1	A 31196- ASSEMBLY		
QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	ITEM	PART NO.	DESCRIPTION
–	1	–	–	–	–	1	1	1	017848	ENCLOSURE, 8x6x4 NEMA 4X S.S. (HINGED)
–	⚠	–	–	1	1	–	–	1	FE7173	ENCLOSURE, 8x6x4 NEMA 4 (HINGED)
–	⚠2A –	1	1	–	–	–	–	1	FE12852	ENCLOSURE, 8x6x4 NEMA 4X S.S. (CLAMPED)
4	4	4	4	4	4	4	4	2	4170063718	SCREW, PAN HEAD 10-32x3/8"
4	4	4	4	4	4	4	4	3	WMLP-10	LOCKWASHER, PLATED
1	1	–	1	–	1	–	1	4	M21911-1	FEEDER CONNECTION BOARD (1 LOAD CELL)
–	–	1	–	1	–	1	–	4	M21911-4	FEEDER CONNECTION BOARD (4 LOAD CELLS)
–	1	–	–	–	–	–	–	5	FE12957	MALE CONNECTOR, 17 PIN
–	1	–	–	–	–	–	–	6	FE12956	END CAP, MALE CONNECTOR
1	–	–	–	–	–	–	–	7	FE13335	ENCLOSURE, 8x6x4 NEMA 9
2	2	2	2	2	2	2	2	8	FE11731 ⚠8A	CONNECTOR W/BUSHING GRIP .181-.312
2	2	2	2	2	2	2	2	9	FE11641 ⚠8B	LOCKNUT .375" FPT GRAY PLASTIC
2	2	2	2	2	2	2	2	10	FE15295 ⚠8C	SEALING WASHER .375" NPT
1	–	–	–	–	–	–	–	11	IB112344-1	KIT ADAPTER PLATE

⚠8E SEE NOTE 4

⚠9A

⚠5a								DP		
-16	-15	-14	-13	-12	-11	-10	-9	A 31196- ASSEMBLY		
QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	ITEM	PART NO.	DESCRIPTION
	–	–	1	–	–	1	1	1	017848	ENCLOSURE, 8x6x4 NEMA 4X S.S. (HINGED)
	–	1	–	1	1	–	–	1	FE7173	ENCLOSURE, 8x6x4 NEMA 4 (HINGED)
	–	–	–	–	–	–	–	1	FE12852	ENCLOSURE, 8x6x4 NEMA 4X S.S. (CLAMPED)
	1	–	–	–	–	–	–	1	FE15064	ENCLOSURE, 8x6x4 NEMA 4X S.S.316 (HINGED)
	4	4	4	4	4	4	4	2	4170063718	SCREW, PAN HEAD 10-32x3/8"
	4	4	4	4	4	4	4	3	WMLP-10	LOCKWASHER, PLATED
	–	–	–	–	1	–	1	4	M21911-3	FDR CONN BD (4 LC)
	–	–	–	1	–	1	–	4	M21911-5	FDR CONN BD (4 LC w/ Tacho Switch)
	–	1	1	–	–	–	–	4	M21911-2	FDR CONN BD (1 LC)
	1	–	–	–	–	–	–	4	M21911-1	FEEDER CONNECTION BOARD (1 LOAD CELL)
	2	2	2	2	2	2	2	8	FE11731 ⚠8A	CONNECTOR W/BUSHING GRIP .181-.312
	2	2	2	2	2	2	2	9	FE11641 ⚠8B	LOCKNUT .375" FPT GRAY PLASTIC
	2	2	2	2	2	2	2	10	FE15295 ⚠8C	SEALING WASHER .375" NPT
	–	–	–	–	–	–	–	11	IB112344-1	KIT ADAPTER PLATE

⚠8A

⚠8

⚠6B

⚠8E SEE NOTE 4

⚠9A

NOTES:

⚠5b 1. PART NUMBERS -1 THRU -4 , -7 & -9 THRU -14 HAVE HINGED COVERS.

2. PART NUMBERS -5 AND -6 HAVE CLAMPED COVERS (NO HINGES).

3. BOX DEPTH = 3.50 "

⚠5a 4. ITEMS 8, 9, 10 NOT TO BE INSTALLED. PLACE LOOSE IN ENCLOSURE FOR INSTALLATION AT ASSEMBLY.

FILE I.D. = 173452
SHOP ORDER = STANDARD

REV NO.	DATE	DESCRIPTION
9	5-10-15	ADDED ITEM 11; IB112344-1
8	11/28/2012	ADDED ITEM 8, 9, & 10; NOTATION 4
7	10/28/2011	P/N -15 ITEM 4 IS M21911-1, WAS -3
6	8/4/2008	Revised p/n's -13 & -14; Ed B
5	7/2/2008	ADDED P/N -9 thru -14; Ed B
4	10/7/2002	ADDED P/N -8
3	11/6/2001	REVISED P/N FE7173 NEMA RATING
2A	5/18/01	SEE E.C.N., TOM GEARY
1	12/5/00	ADDED P/N'S -5 AND -6

(REF M20301)

ORIGINAL

TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACTIONAL ± 1/32" | DECIMAL .X ± .05, .XX ± .025 | ANGULAR AS NOTED | SURFACE ROUGH. √

BREAK CORNERS .005 TO .010 R

FINISH SPEC | CAPACITY | MAT'L | WEIGHT | IDENTIFICATION | DATE

CHK'D | CUSTOMER | CUSTOMER ORDER NO. | MACHINE MODEL NO.

TITLE: FEEDER CONNECTION BOARD ASSEMBLY

SCALE FULL | DRAWN ROCHER | CHK'D | APP'D | DATE 11/8/96

MERRICK
Merrick Industries, Inc.

REV. NO. 9 | A-31196 | SHEET 1 OF 1