Cleco

mPro400GC

- Flexibility
- Connectivity
- Serviceability

Powerful Tightening Control On A Single Platform

The mPro400GC. Innovation For Safety Critical Applications.
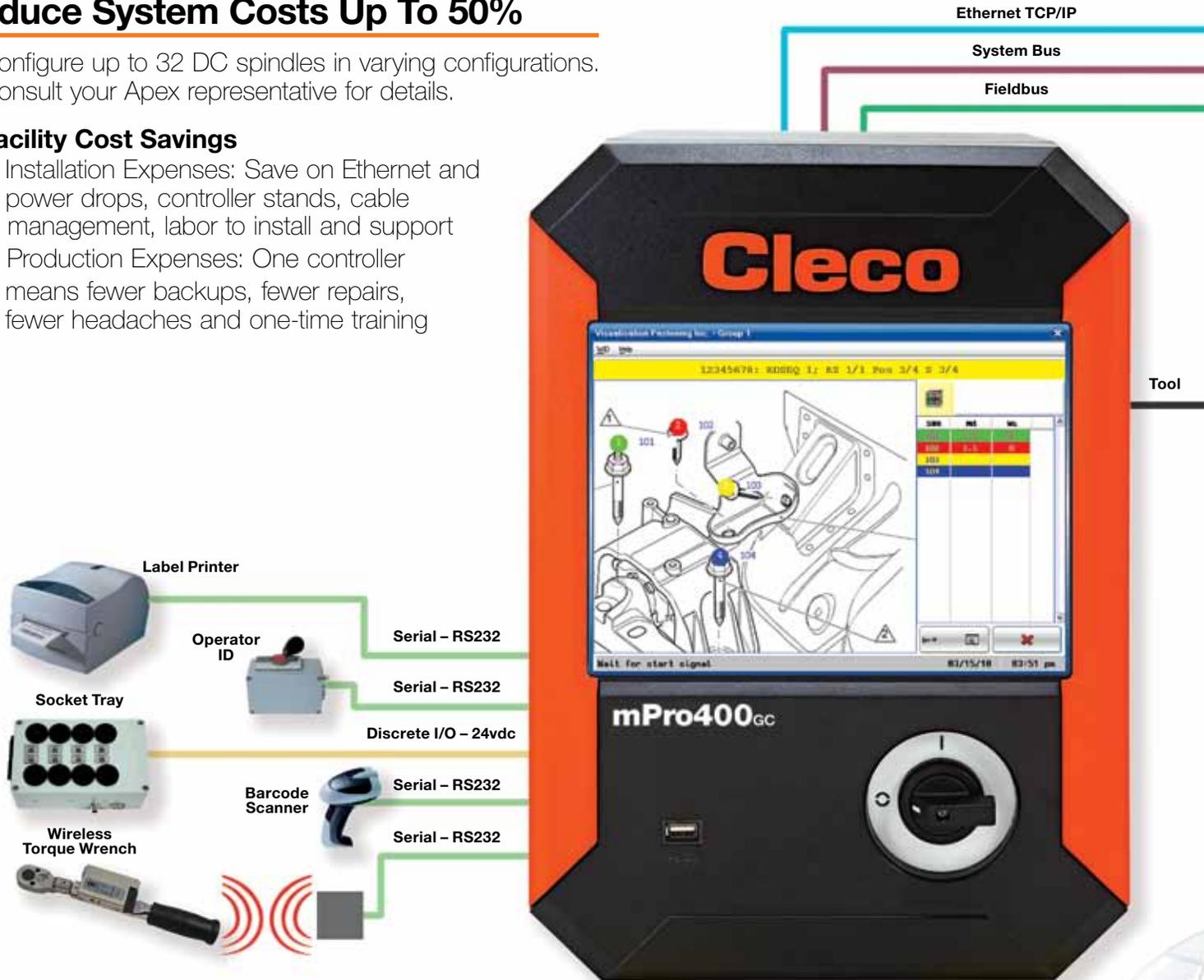
Cleco®

The Most Flexible, Cost-Effect

Introducing the Cleco **mPro400**GC Global Controller, the first controller for safety-critical applications that offers unsurpassed levels of flexibility, connectivity, and serviceability while providing superb torque accuracy and process control. This new controller incorporates the advanced technical features of the proven DGD mPro system with the user-friendly software of the trusted Cleco TME controller, resulting in a powerful control solution that offers impressive cost savings through unequalled flexibility.

Corded, Cordless, Or Fixtured ... All From One Controller

The Cleco **mPro400**GC Global Controller is compatible with all Cleco 18-48 Series DC electric corded tools, LiveWire cordless tools, and all DGD and EMT fixtured spindles. That means fewer controllers and cables are needed for your line. And that means savings…up to 50% over traditional systems.

Reduce System Costs Up To 50%

■ Configure up to 32 DC spindles in varying configurations. Consult your Apex representative for details.

■ **Facility Cost Savings**
  - Installation Expenses: Save on Ethernet and power drops, controller stands, cable management, labor to install and support
  - Production Expenses: One controller means fewer backups, fewer repairs, fewer headaches and one-time training

Ethernet TCP/IP

System Bus

Fieldbus

Tool

Label Printer

Operator ID

Serial – RS232

Serial – RS232

Socket Tray

Discrete I/O – 24vdc

Barcode Scanner

Serial – RS232

Wireless Torque Wrench

Serial – RS232

mPro400GC

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tive Systems Controller ... Ever

Control System

Data Server
TorqueNet

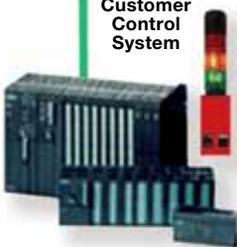mPro Remote
Programming

Access
Point

Power/
CPM

DGD Intelligent Spindles
Unique Technology, Smallest Hardware Foot Print, Best TCO.

Customer
Control
System

DGD
Conventional
Spindles

Corded Hand Tool

LIVEWIRE™

LIVEWIRE™
vmax

Up to 10 LiveWire Tools
To 1 Controller

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Universal Connectivity

Universal connectivity begins with global auto-sensing input voltage, 16 configurable inputs and outputs, plus DeviceNet, Ethernet-IP, Profibus and Profinet fieldbus standards. User-friendly software mapping of discrete and fieldbus selections provides ultimate error-proofing control. Dual fieldbus ports allow redundant I/O mapping or expansion. Utilize two different fieldbus standards simultaneously for maximum flexibility.

The Cleco **mPro400**GC Global Controller comes standard with a system bus to manage internal data flow and avoid burdening outside networks. It can be utilized for rapid "grab and go" connectivity to accessories, such as adding error-proofing from socket trays,
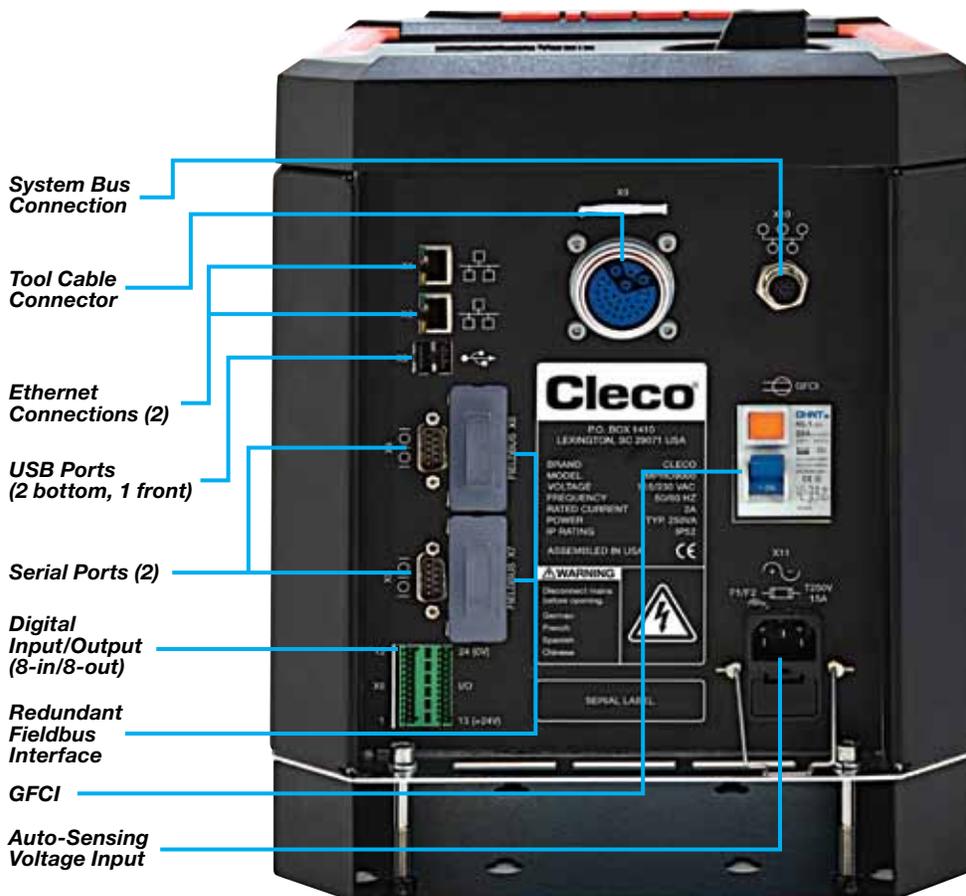
stack lights, or operator boxes. Configurable software menus allow quick integration into any process. With up to 32 configurable nodes on the system bus, endless error-proofing combinations are possible.

The system bus can manage multiple secondary controllers in combination with single and multi-spindle stations. Spindle sequencing, data management, and diagnostics are just a few of the many functions performed. In addition, DGD® Fixtured Intelligent Spindles can utilize the system bus to drive up to 30% of cost out of a traditional system through cable reduction, maximizing acquisition and facility cost savings.

Universal Connectivity

- ☐ Auto-Sensing Voltage
- ☐ 16 Configurable I/O's
- ☐ Redundant Fieldbus
- ☐ Redundant Serial and Ethernet Ports
- ☐ Isolated System Bus

- **System Bus Connection**
- **Tool Cable Connector**
- **Ethernet Connections (2)**
- **USB Ports (2 bottom, 1 front)**
- **Serial Ports (2)**
- **Digital Input/Output (8-in/8-out)**
- **Redundant Fieldbus Interface**
- **GFCI**
- **Auto-Sensing Voltage Input**

For Ultimate Flexibility

Rundown Data Storage

The **mPro400**GC supports TorqueNet, our data collection and archiving software, as well as other industry standard software packages. Protocols are available for many of the standard products.

The Cleco **mPro400**GC Global Controller works seamlessly with current protocols and offers significant performance advantages over traditional systems. Features include:

- A single software program that covers both hand-held and fixtured applications
- Standard spindle sequencing and reject management
- 19 advanced fastening control sequences standard at no additional cost
- Remote programming software with no licensing restrictions
- Touch screen display with integrated alpha-numeric keyboard

No Software Licensing!

Remote Programming

Ethernet TCP/IP

User Friendly GUI

Oscilloscope Process Management

Quick-Start Auto Program Option

In-Depth Data Management

Easy-To-Read Run Screen

Digital Image Bolt Sequencing

Superior Serviceability For

Installation Flexibility

At only 10"w X 15"h X 15"d (254mm X 381mm X 381mm) and weighing just 30 lbs. (13.6 kg.), the Cleco **mPro400**GC is smaller and lighter than most traditional controllers. It can be lifted easily by a single person and will mount just about anywhere.

10"x15"x15"
(254mm X 381mm X 381mm)
And Just
30 lbs.
(13.6 kg.)

mPro400GC

Master/Primary Unit

Exceptional Ease-Of-Use

Quick Mount Bracket

No more templates and measuring mounting hole patterns...installation of the **mPro400**GC is simple with a separate receiver bracket that makes locating mounting holes easy. The unit then attaches directly to the bracket so the installation is fast and foolproof.

Integrated Cable Management

The **mPro400**GC mounting bracket incorporates an integral cable management channel, so installations stay orderly and easily accessible. Clearly labeled connectors and top-down cable routing means a clean installation with no guesswork. Mounting was designed to be simple and effective to get you up and running fast.

CompactFlash® Memory For Production Uptime

A standard CompactFlash card reliably stores:

- Operating system
- Drivers
- Network settings
- Application parameters
- Torque data

50 Second Boot!

Positioned on the back of the unit for added security and tamper resistance, the card is still easily accessible.

- Rapid controller swap with 50-second boot
- No licensing or proprietary hardware
- Card stores a minimum of 10,000 rundowns per tool

Secondary Controller Functionality

A secondary controller is controlled from a master or primary unit. It has I/O for local error proofing and peripherals, plus a LCD for operator feedback and troubleshooting.

mPro400GC

Secondary Unit

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Controllers

Master/Primary Unit   **Secondary Unit**

Model	Description	Tool Compatibility
MPRO400GC-P	Primary	Cleco 18-48 Series, LiveWire, Intelligent Spindle*
MPRO400GC-P-12	Primary 1-2	LiveWire, Intelligent Spindle*, DGD/EMT Fixtured Spindles - Size 1-2
MPRO400GC-P-34	Primary 3-4	LiveWire, Intelligent Spindle*, DGD/EMT Fixtured Spindles - Size 3-4
MPRO400GC-S	Secondary	Cleco 18-48 Series
MPRO400GC-S-12	Secondary 1-2	DGD/EMT Fixtured Spindles - Size 1-2
MPRO400GC-S-34	Secondary 3-4	DGD/EMT Fixtured Spindles - Size 3-4
MPRO400GC-M	Master	LiveWire, Intelligent Spindle*
MPRO400GC-E	Torque Control	Cleco 18-48 EXE Series Series*
MPRO400GC-I	Current Control	Cleco 18-48 CXE Series**
544185PT***	Isolation Transformer	Cleco 17-47-67 Series, 18-48 Series Matrix Tools

Isolation Transformer

* Requires quote to accommodate hardware configurations.
** 48 series tools require 230 VAC.
***See chart below for required cables.
Note: 17/47/67 and Matrix versions of the 18/48 series tools require Isolation Transformer 544185PT for use with Primary/Secondary controllers.
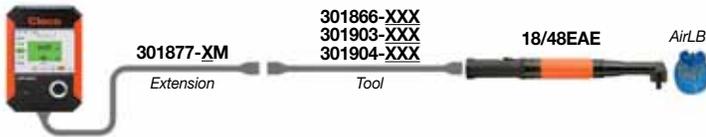
Cables

Tool	Extension	Description	Connectors
301866-XM	301877-XM	Straight, Std. Durability	AirLB - AirLB
301903-XXX		Angle Swivel, Std. Durability	AirLB - AirLB
301904-XXX		Straight Swivel, Std. Durability	AirLB - AirLB
542778-XM**	542779-XM**	Straight, Std. Durability	Matrix - Matrix

(X = 1,2,3,6,8,10,15) Meters
(XXX = 010, 020, 030, 040, 050, 060, 080, 100, 120, 130, 140, 150, 180, 220) Decimeters
Maximum tool to controller cable length 20M.
**Required for use with Isolation Transformer.

301877-XM
Extension

301866-XXX
301903-XXX
301904-XXX
Tool

18/48EAE

AirLB

Accessories

Part No.	Accessory Description
543995	Access Point 2.4GHz WLAN (US)
961323	Access Point 2.4GHz WLAN (EU)
S133437	System Bus 16 I/O Expander
S133436	System Bus 32 I/O Expander
S133410	System Bus 4-Position Socket Tray
S133411	System Bus 8-Position Socket Tray
S133406	System Bus Control Box with Buzzer
S133405	System Bus Stack Light without Buzzer
S133420	System Bus Stack Light with Buzzer
544171PT	Fieldbus Devicenet
544172PT	Fieldbus Ethernet-IP
544173PT	Fieldbus Profibus
544174PT	Fieldbus Profinet
544163PT	CompactFlash Module Programmed
544211PT	Fieldbus Modbus/TCP

Accessory Cables

Part No.	Accessory Cable Description
543446-7	Ethernet Cable Crossover - 2M
543445-7	Ethernet Cable Patch - 2M
544196-005	System Bus Cable - 0.5M
544196-020	System Bus Cable - 2M
544196-050	System Bus Cable - 5M
544196-200	System Bus Cable - 20M
544196-500	System Bus Cable - 50M
544197	System Bus Terminator
935170	Serial Cable IrDA - 1M
543490-10	Serial Cable Null Modem - 3M

S133420 Stack Light with Buzzer

S133410 Socket Tray

S133406 Control Box with Buzzer

Anybus

544172PT Fieldbus Ethernet-IP

544171PT Fieldbus Devicenet

544174PT Fieldbus Profinet

544173PT Fieldbus Profibus

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