

Connected Components Building Blocks

Error Proofing — Package Measurement Application Profile



Connected Component Building Blocks provide the overhead so you can concentrate on making your machine the best in the market

Connected Components Building Blocks

Connected Components Building Blocks (CCBB) from Rockwell Automation® provide you with the information you need to quickly and easily implement common control tasks in your machine design.

Take advantage of best practice based examples with:

- Lists of compatible materials
- Panel and wiring drawings
- Status and diagnostic control programs and HMI screens
- Quick start guide
- All available on DVD, CC-QR001_-MU-C

Error Proofing: Package Measurement Application Profile

The Rockwell Automation package measurement solution provides a complete system for determining the cubic size of an object using optical technologies. Light arrays are similar to traditional photoelectric sensor transmitted beam pairs, but combine multiple emitter or receiver elements into a single housing to create a "sensing field," instead of a single "sensing beam". The array utilizes these multiple element pairs to determine object size. This CCBB allows you to integrate a stand-alone, cost effective Package Measurement solution, using prewritten PLC code and HMI screens, into your machine application.

Solution Specific Advantages

- Utilize a 45MLA Measuring Light Array sensor system with a MicroLogix™ controller for simple measuring tasks
- Help lower costs with communication through RS-485
- Height, width, and length measurement data is conveniently obtained for use in your machine operation
- Simple conversion to 1D and 2D measurement apps
- Straightforward setup and commissioning with the activation of commands from a MicroLogix controller
- Save design time through the use of industry standard PLC programming
- PanelView™ Component HMI is used to display beam status and object dimensions for simple troubleshooting and machine operation

LISTEN.
THINK.
SOLVE.®

Error Proofing: Package Measurement Diagram

SENSING

45MLA Measuring Light Array

- Measure product height with different size models — sensing heights from 300 mm (11.8 in) to 1200 mm (47.2 in)
- Sensing range of up to 4 m (13 ft)
- Slim profile (15 x 20 mm/0.6 in x 0.8 in)
- "Three Box System" — the emitter and receiver arrays are connected to a separate controller

45MLA Controller

- The 45MLA Controller RS-485 is capable of communicating individual beam results via RS-485
- Beam status information can be collected with a MicroLogix™ PLC

Pushbutton (800F)

- Modular design
- Unparalleled flexibility
- Unmatched low-voltage switching
- Easy installation for time and cost savings

CONNECTIVITY

Terminal Block (1492-J)

- Self-locking screw clamp allows tight connection
- Superior jumpering capability
- Four-sided funnel wire guides for easy wire installation
- Designed for DIN rail mounting with a full range of accessories and specialty blocks

We offer products suited for applications around the world. Below are some options:

IEC Miniature Circuit Breaker (1492-SP)

- Rated 0.5 A ... 63 A and 240/415 VAC and 48 VDC
- 1 pole, 2 pole, 3 pole, 1 pole + N and 3 pole + N versions
- Bus bars available, 1 phase, 2 phase, 3 phase, and 4 phase
- Auxiliary contact and shunt trip modules available
- VDE certification

UL489 Listed Miniature Circuit Breaker (1489)

- Rated 0.5 A ... 40 A and 480Y/277 VAC, 240 VAC, 48 VDC
- 1 pole, 2 pole, 3 pole versions
- Bus bars available, 1 phase, 2 phase, 3 phase
- Auxiliary contact and shunt trip modules available

Power Supply (1606-XL)

- 15W-960W output (@24V DC)
- 1, 2 or 3 phase voltage input
- Quick-connect spring clamp or screw terminals
- Built-in reserve power up of 150% of nominal current

POWER

We offer products suited for applications around the world. Below are some options:

Circuit Breakers (140U)

- Compact size, 30% reduction in panel
- Field installable accessories while maintaining UL 489
- Dual ratings — UL 489, IEC 60947-2

Disconnect (194R)

- Panel space savings — smaller footprint
- High fault withstanding rating — up to 200kA with UL Class J and CC fuses
- Superior short circuit protection — Type 2 coordination

Molded Case Circuit Breakers (140UE)

- Field installable accessories while maintaining IEC 60947-2
- KEMA-KEUR approval
- Multiple levels of interrupting capacity available

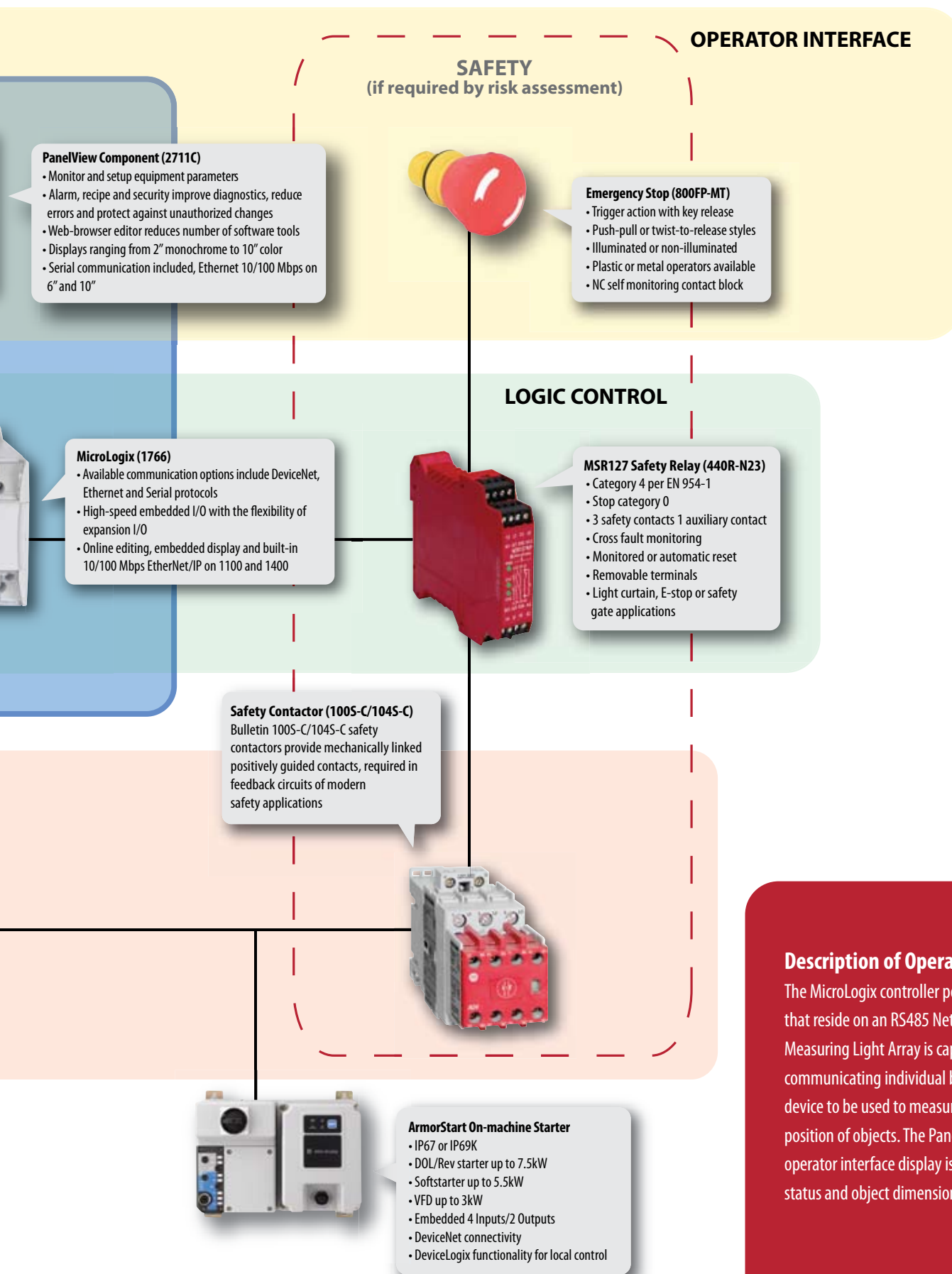
Load Switches (194E)

- 16...100A
- 3 or 6 pole switch configurations for OFF-ON or Change-over applications
- Front/Door or Base/DIN rail mounting
- Wide choice of actuators, all with IP66 protection degree

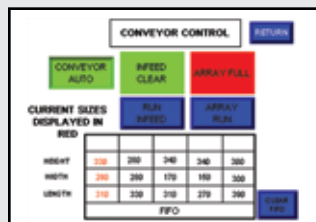
Power Distribution Blocks (1492-PDE)

- UL recognized, CSA certified, CE compliant
- IP20 from the front
- Multi-pole assembly possible with easily gangable units
- High fault SCCR up to 100 kA

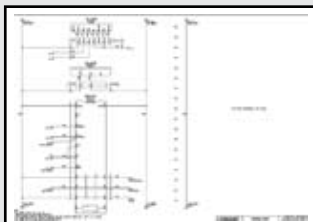
Above is a typical representation of the components used in this system solution. Your requirements could vary based on your specific machine needs.



Building Block Tools



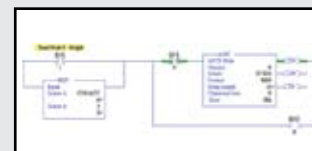
HMI Screen



CAD Drawing



Quick Start



Ladder Logic Code

Applications

Material Handling

- Package "Cubing" (Height, Width, and Length Measurement)
- Pallet overheight detection when maximum allowed height can vary
- Storage systems (horizontal and vertical carousels, vertical lift machines)
- Pallatizers/Depalletizers

Automotive

- Vehicle height measurement
- Powder coating/Paintshop spray optimization
- Tire sorting by size

Lumber

- Trimming inspection and length verification
- Debarking
- Log diameter

General

- Web width confirmation
- Web edge position detection

Connected Components Solution

The following sample bill of materials lists core products. For a complete solution bill of materials (includes power circuit components, control circuit components, sensors and pushbuttons) order the Connected Components Building Blocks DVD, CC-QR001_-MU-C.

CCBB Error Proofing: Package Measurement Basic Products		
Quantity	Catalog Number	Description
1	1763-L16BBB	MicroLogix 1100, 24V DC power, (10) 24V DC digital inputs, (2) 10V analog inputs, (2) relay outputs, (4) 24V DC FET outputs
3	45MLA-CTRL-485	45MLA Controller, RS485
3	45MLA-AT1200P10	1200 mm Measuring Light Array, 120 beams (other lengths available)
6	445L-AC8RJ3	Controller to array cable, 3m (other lengths available)
1	2711C-T6C	PanelView Component 6" color touchscreen terminal
1	1606-XLP90E-2	AC/DC DINrail mount compact power supply, standard module 90 W, 2 phase, 480V AC input voltage
–	1763-NC01	Cable: MicroLogix 1100 Channel 0 (8-pin DIN) to RS-485 (6-pin Phoenix)
1	1585J-M8PBJM-2M	Cross-over Ethernet cable
CCBB Error Proofing: Package Measurement Products for Programming		
Quantity	Catalog Number	Description
1	9324-RLM0100ENE	RSLogix Micro Starter (English) CD-ROM

For additional information, please visit www.rockwellautomation.com/go/connected

www.rockwellautomation.com

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