

UMA Series

UMA Safety Mat System

Heavy-duty two-wire or four-wire presence sensing safety mats with quick disconnect cables, perimeter trim and Cat. 3 controllers

System

When UMA series mats are combined with an SCC-1224A, MC3, MC6, or other Omron programmable safety controller (with complete diagnostics), the result is a system that meets the standard EN ISO 13856-1 and is entitled to display the CE mark. See below for an overview of the various components.

UMA Series Mat

- IP65 rated
- Single-piece molded polyurethane (PUR) construction
- Black or yellow color
- Easy cable connection

Controllers

- Safety category 3 devices
- DIN-rail mount (MC3)
- NEMA MC6 controllers

Trim

- One-part or Two-part perimeter and joining trim simplifies installation and provides a custom appearance
- Two options for trim kit corners: Mitered and molded

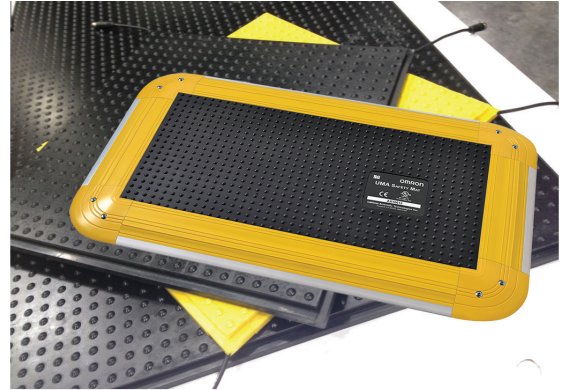
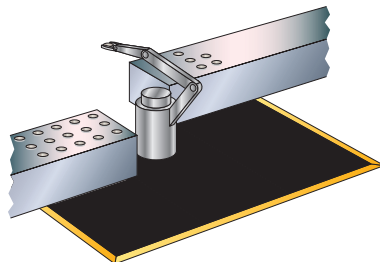
Note: Trim options are unchanged from UM and UMQ series.

Identical sizes are backward compatible., except for metric trim kits, which will no longer be made to the nearest half inch. UMA mats and trim kits will now be made to their true metric dimensions.

Applications

Presence sensing safety mats are used to monitor an entire hazardous area. They offer flexibility, quick access and may frequently be the most economic choice. Other options for perimeter guarding include interlocked barrier guards and safety light curtains. However, personnel can become trapped inside a barrier guard and safety light curtains only monitor the perimeter, not the hazardous area inside. Additionally, mats can also simplify routine tasks such as machine setup, maintenance and repair. Applications can be found throughout industry and typically include the following areas:

- Welding Robots
- Assembly Machinery
- Material Handling
- Packaging Machinery
- Punches
- Presses
- Robotic Work Cells



Description

The UMA Mat System offers quick-connect M8 connectors on the mat that easily conceal under the trim offering easier installation and quick replacement. The system can be used with the MC3 and MC6 4-wire controller; UMA mats can also be directly connected to NX-S or G9SP programmable safety controllers eliminating the need to intermediate controllers.

Safety Mats are ideally suited to harsh environments where devices such as laser scanners and light curtains can false trip due to contaminants in the environment. Safety mats when used as a start-up prevention device offer additional worker protection offering continual detection in hazardous areas.

How the System Works

The operation of a UMA Mat system is easy to understand. The mat is a simple, normally open switch. When a specified minimum weight is applied to the mat the "switch" closes. This sends a signal to the controller which, in turn, sends a stop signal to the guarded machine.

Each mat presents two wires with a terminating resistor or four wires to the controller providing the redundancy required to monitor the wiring for open circuits due to incorrect wiring or physical damage to the wires.

In order to meet many national safety regulations, Omron STI offers trim to secure the mat to the floor so that it cannot be easily relocated and therefore become ineffective.

In order to meet many national safety regulations, Omron STI offers ramp trim to minimize tripping and to secure the mat to the floor so that it cannot be easily relocated and therefore become ineffective.

Specifications

Mechanical	
Detection Method:	Pressure Sensitive
Mat Cover Material:	Polyurethane (PUR)
Mat Type:	Normally open SPST, four-wire (1-cable type) or two-wire (2-cable type) available
Activation Force:	300 N (67 lbf) min. to 80 mm (3.14 in.) dia. test piece
Response Time (Reference only):	Average of 30 ms (measured at the center of the mat, at room temperature)
Dead Zone (or Inactive Edge):	10.2 mm (0.4 in.) around the inside perimeter of active surface
Maximum Load:	2,000N (450 lb) to 80 mm (3.14 in.) dia. body 1,862 kPa (270 lbs/in.2) (rolling load (stationary))
Mechanical Durability:	1 x 10 ⁶ operations min.
Mat Exit Cable:	Model No. ending '-1': 1 exit cable, M8 4-pin cable, 4 conductors, 22 AWG, male Model No. ending '-2': 2 exit cables, M8 3-pin cable, 2 conductors, 22 AWG, 1 male and 1 female
Mat Weight:	Approx. 27kg/m ²
Environmental	
Protection:	IP65
Operating Temperature:	-10 to 55°C (14 to 131°F)
Mat Electrical Rating:	20.4V to 28.8V
Operating Humidity:	0-95% RH
Mat Chemical Resistance*: *40 minute exposure at 23°C (74°F)	
Water:	Distilled water: Good for brief exposure Tap water: Excellent Salt water: Excellent
Mineral Acids:	Sulfuric acid, 20% (by volume): Good Hydrochloric acid, 20% (by volume): Poor. Clean up immediately if spilled 15 to 40% Phosphoric acid stainless steel cleaner (diluted to 10%): good
Organic Acids:	200 Grain white vinegar (20%): Good for brief exposure under one hour Lactic acid, 88%: Good for brief exposure under one hour Lemon juice, 100%: Good for brief exposure under one hour
Aldehydes:	Phenolic aldehyde: Good
Caustics:	Ammonia all-purpose cleaner 7 to 7.5% (by volume): Good 25% Lye solution (by weight): Excellent
Petroleum Solvents:	Gasoline (5 to 10% Ethanol additive): Poor. Clean up immediately if spilled Hydrocarbon solvent: Excellent
Organic Solvents:	Acetone: Good ISO alcohol 100%: Good Allow natural evaporation if spilled
Chlorinated Solvents:	Bleach: Good
Dielectric Fluid:	Mineral oil/dielectric fluid: Good Synthetic cutting fluid: Good Machine oil: Good
Conforming to Standards:	EN12978, EN ISO13849-1, EN 13856-1, UL NKCR/NKCR7 Auxiliary Devices: ANSI/UL 508, ANSI/UL 60947-1, ANSI/UL 60947-5-1, CSA-C22.2 No. 14
Approvals:	UL E195653: NKCR/NKCR7
Integrated systems of mats and controller (MC3.or MC6)	SIL2; PFHd 4.8E-08; PLd; Category 3

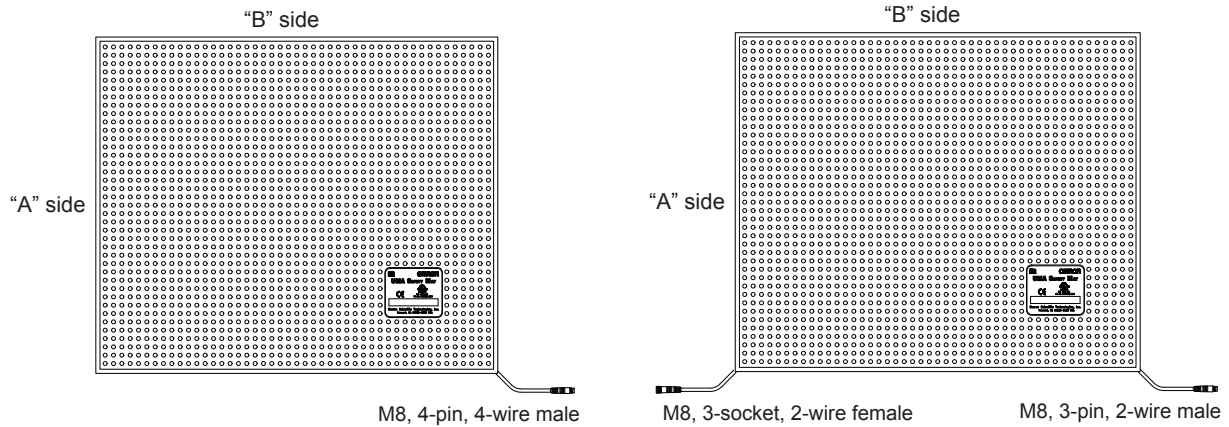
Mat Selection

Multiple UMA series mat sizes are offered. A system can easily be configured to meet almost any guarding requirement. Cables exit on the side of the mat where the logo is located.

Standard Mat Sizes		
Widths (A)	12 to 72 in.	
Lengths (B)	12 to 72 in.	
Maximum Size is either 48 in. x 72 in. or 72 in. x 48 in.		
Metric Mat Sizes		
Widths (A)	500 to 1800 mm	
Lengths (B)	500 to 1800 mm	
Maximum Size is either 1200 mm. x 1800 mm. or 1800 mm x 1200 mm		
Custom Mat Sizes		
	Imperial	Metric
Widths (A)	From 12 in. up to 72 in. (0.5 in. increments)	From 500mm up to 1800mm (50mm increments)
Lengths (B)	From 12 in. up to 72 in. (0.5 in. increments)	From 500mm up to 1800mm (50mm increments)
Maximum Size is either 48 in. x 72 in. or 72 in. x 48 in.		

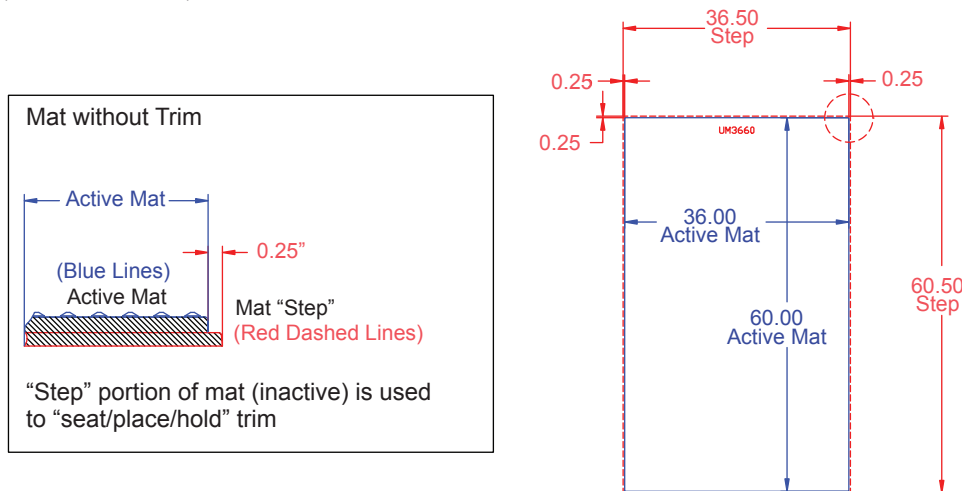
Note:

Max. wire length as noted above.



Mat Dimensions

For mat shown (UMA3660), active mat area is 36 in. x 60 in.
 Overall mat size is 36.5 in. x 60.5 in.
 "Step" adds 0.25 in. to perimeter.

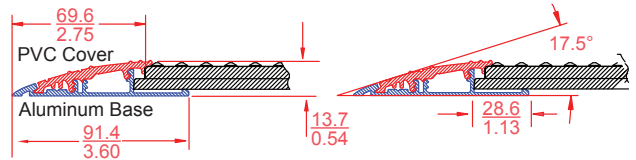


Trim Selection

Several choices are available in trim selection and can be customized to a specific application.

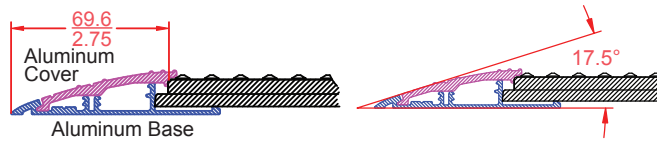
Two-Part Ramp Trim with Yellow PVC Cover (TKM):
 - Ramp trim, aluminum base & PVC cover with mitered corners
 - + / - 2.75 in. to mat layout dimensions

This trim simplifies routing of cables and replacement of damaged mats. To position the mats correctly, place all of the mats in the approximate position, place the joining trim between the mats, then temporarily place the cover on the joining trim. Square the mats by sliding the ramp trim under the mats. When all of the mats are correctly positioned, anchor the perimeter trim to the floor. After the wires have been routed, a rugged cover of highly visible, safety yellow PVC is snapped into place. Corners can either be mitered or be our exclusive molded corners.



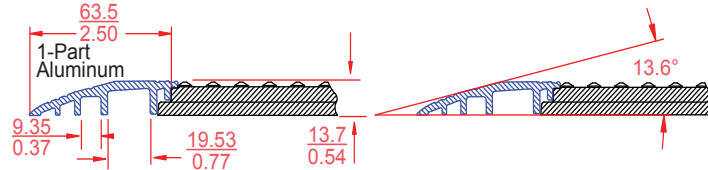
Two-Part Ramp Trim with Aluminum Cover (TKAT)
 - Ramp trim, two-part aluminium with mitered corners.
 - + / - 2.75 in. to mat layout dimensions

This trim is the same as above except that the PVC cover is replaced with an aluminum cover that is attached by screws to the base. (See the Dimensions Section of this datasheet for details.)



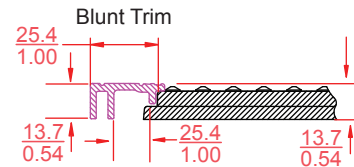
Aluminum Ramp Trim (TKA)
 - Ramp trim, one-part aluminium with mitered corners.
 - + / - 2.50 in. to mat layout dimensions

This single part aluminum ramp trim is available for areas where the two part ramp trim may not be suitable.



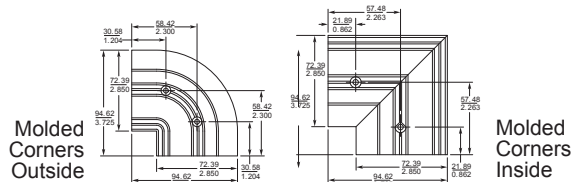
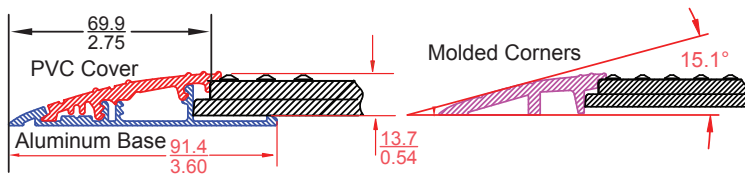
Aluminum Blunt Trim (TKB)
 - Blunt trim, one-part aluminium with mitered corners or right angle corners .
 - + / - 1.00 in. to mat layout dimensions

Used to finish off the edge of a mat installation near a wall or machine. Helps hold mats in place. Use blunt end for sides of the mat without wheels or foot traffic only.

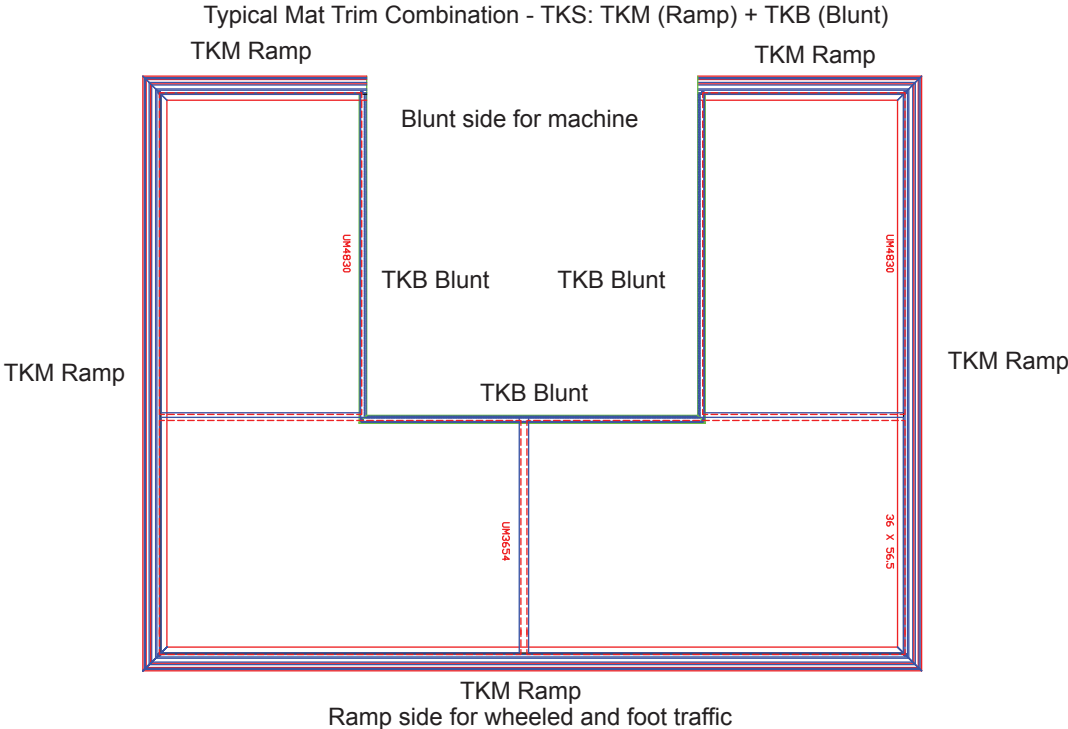


Molded Corners (TKC)
 - Perimeter ramp trim, aluminium base and PVC cover with molded corners.
 - + / - 2.75 in. to mat layout dimensions

Eliminates the need to miter the corners of perimeter trim. Designed to mate with Omron STI two-part PVC or aluminum trim.

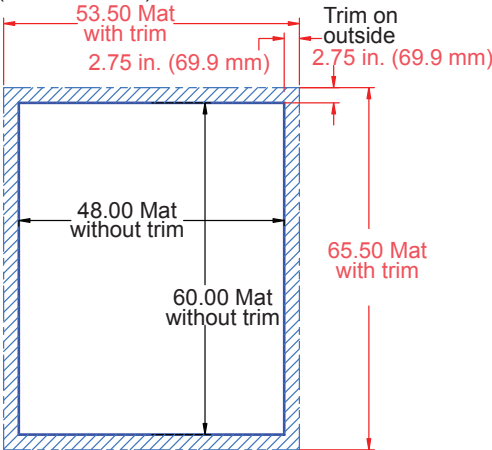


Typical Mat Trim and Examples of Calculations



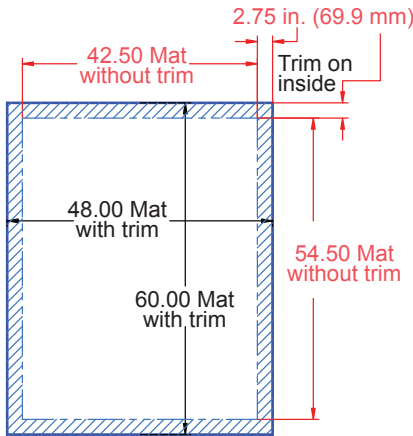
With or Without Trim

If trim is not included:
 Outside dimensions become 53.5 in. x 65.5 in.
 Active mat will be 48 in. x 60 in.
 (Standard Size)



If dimensions DO NOT include trim, trim is ADDED to layout perimeter (+2.75 in. (69.9 mm)) on all sides.

If trim is included:
 Outside dimensions stay 48 in. x 60 in.
 Active mat becomes 42.5 in. x 54.5 in.
 (Custom Size)



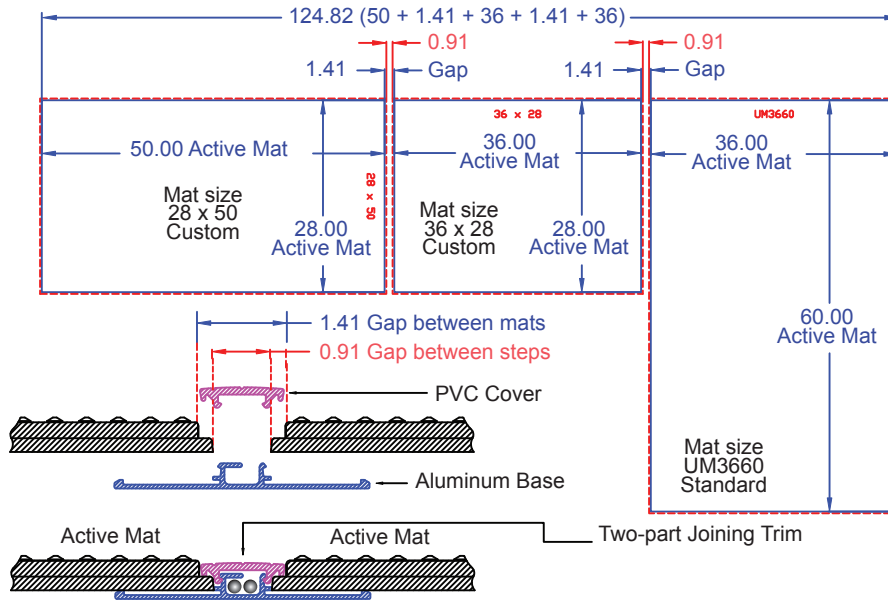
If dimensions DO include trim, trim is SUBTRACTED to layout perimeter (-2.75 in.(69.9 mm)) on all sides.

Typical Mat Trim and Examples of Calculations

Two-Part Active Joining Trim

Similar in concept to the two-part ramp trim, this trim provides an "active" joint where the perimeters of two mats adjoin each other. When a person steps on the surface cover of the active joining trim, the UMA system will detect their presence and send a stop signal to the guarded machine.

Joining trim for layouts with more than one mat.
 Gap between mats for two-part joining trim is 1.41 in. The overall size of the mat will be longer than nominal dimensions.

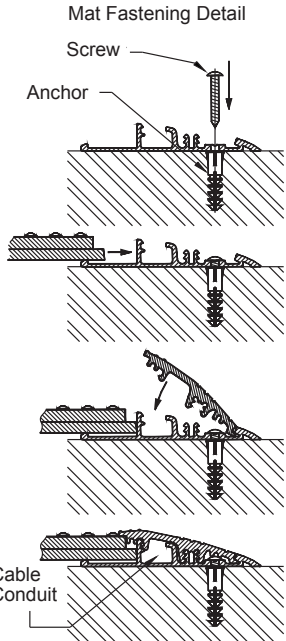
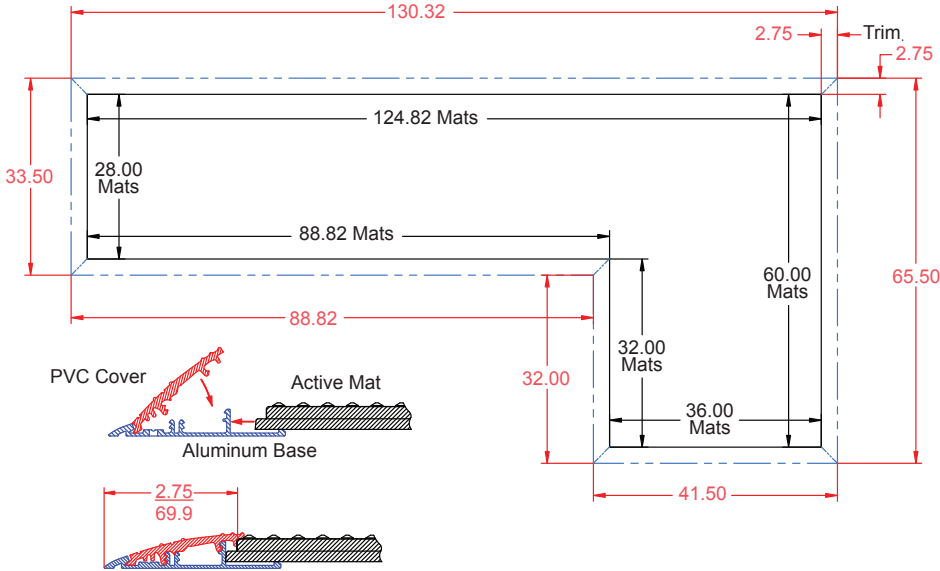


Typical Mat Trim and Examples of Calculations

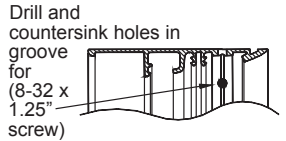
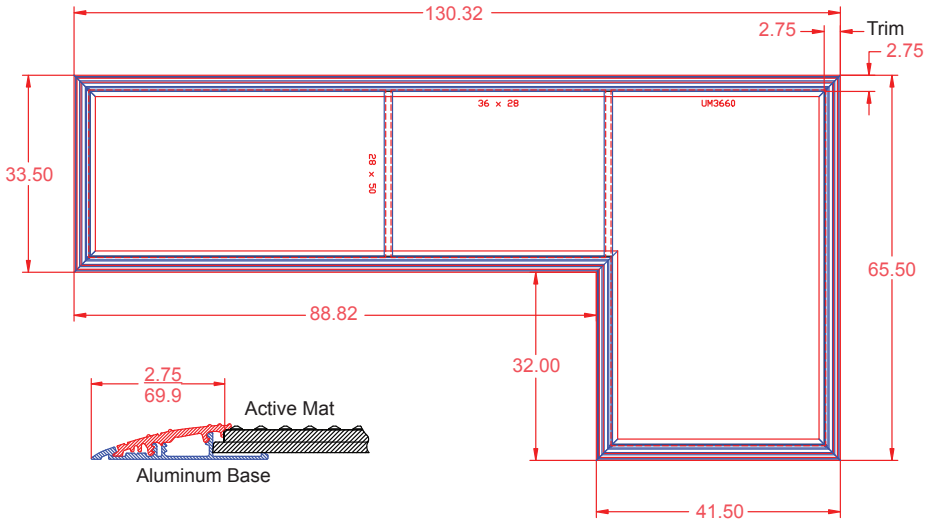
Mats with TKM - Ramp trim, aluminum base & PVC cover with mitered corners.

Note: TKM adds 2.75 in. (69.9 mm) to mat layout if dimensions do not include trim.

TKM: Outline of mats and trim shown



TKM: Actual mats and trim shown

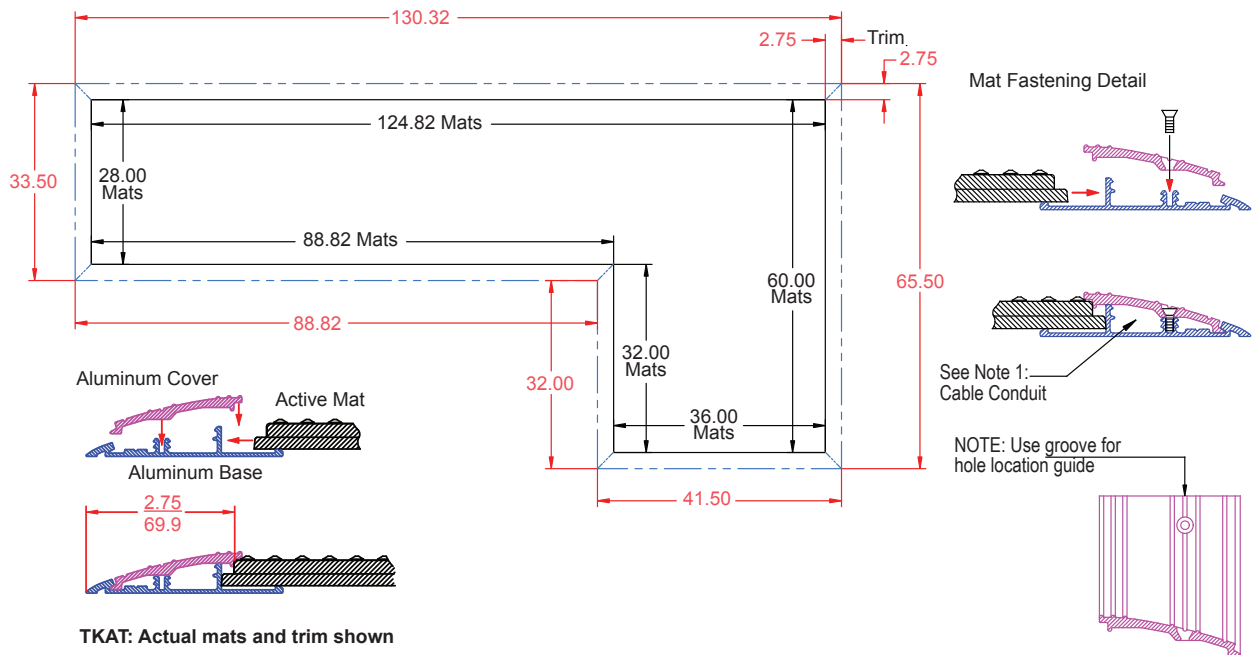


Typical Mat Trim and Examples of Calculations (continued)

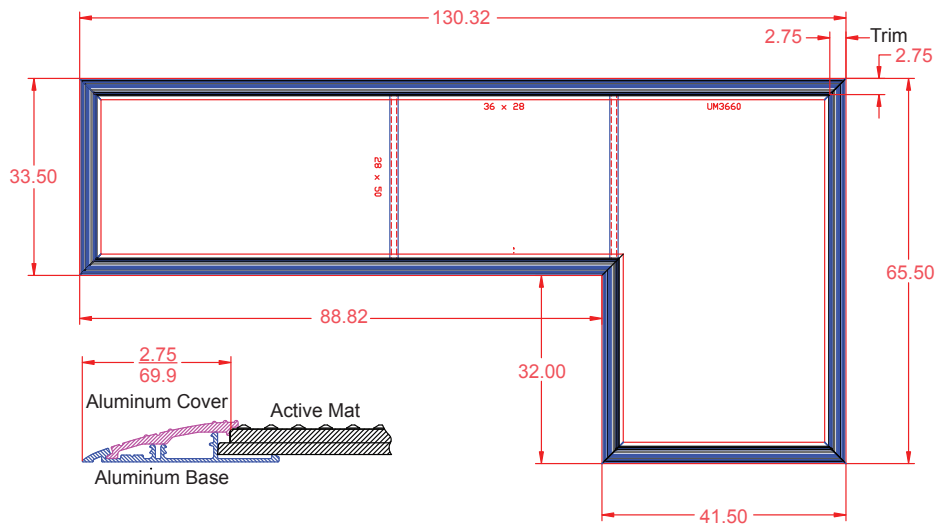
Mats with TKAT - Ramp trim, 2-part aluminum with mitered corners.

Note: TKAT adds 2.75 in. (69.9 mm) to mat layout if dimensions do not include trim.

TKAT: Outline of mats and trim shown



TKAT: Actual mats and trim shown

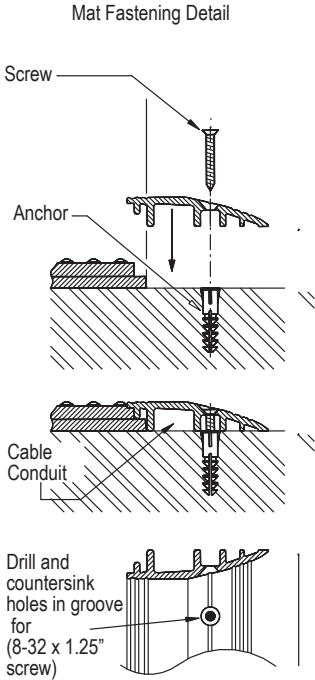
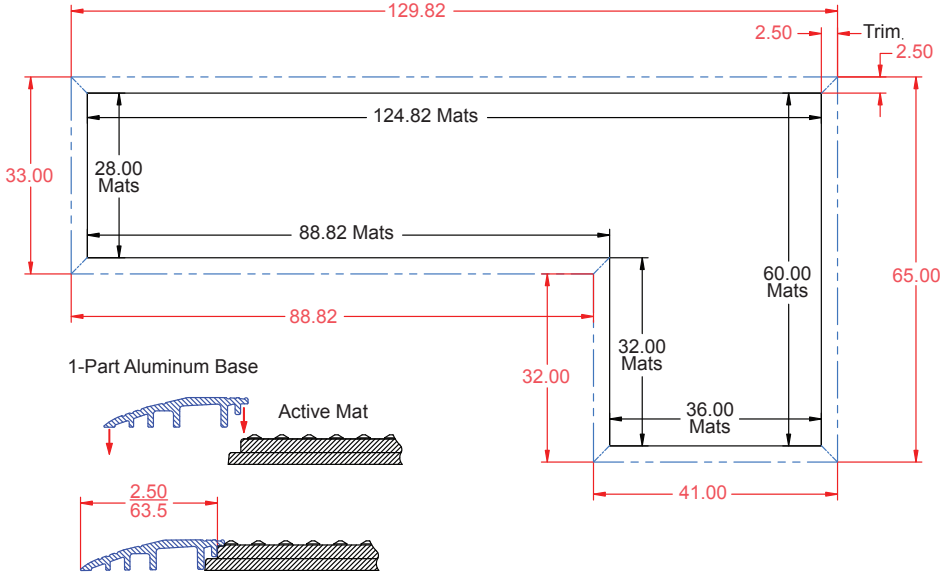


Typical Mat Trim and Examples of Calculations (continued)

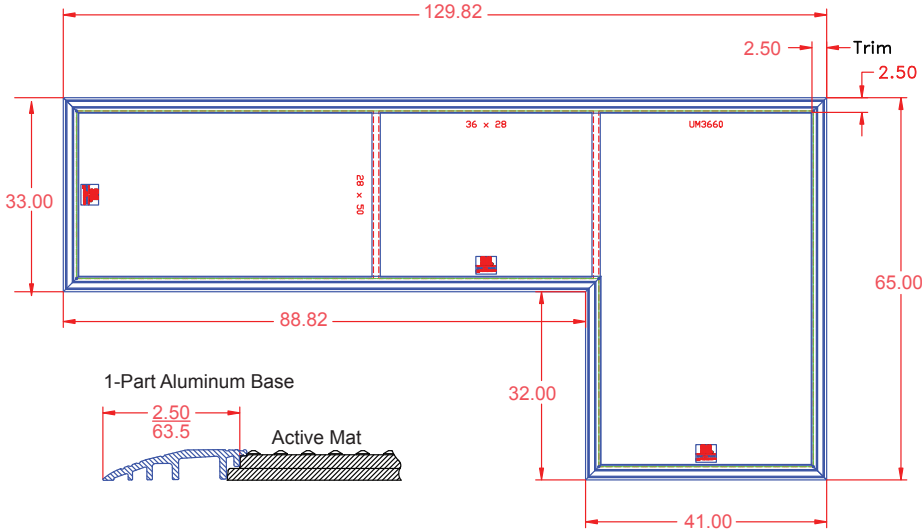
Mats with TKA - Ramp trim, 1-part aluminum with mitered corners.

Note: TKA adds 2.50 in. (63.5 mm) to mat layout if dimensions do not include trim.

TKA: Outline of mats and trim shown



TKA: Actual mats and trim shown



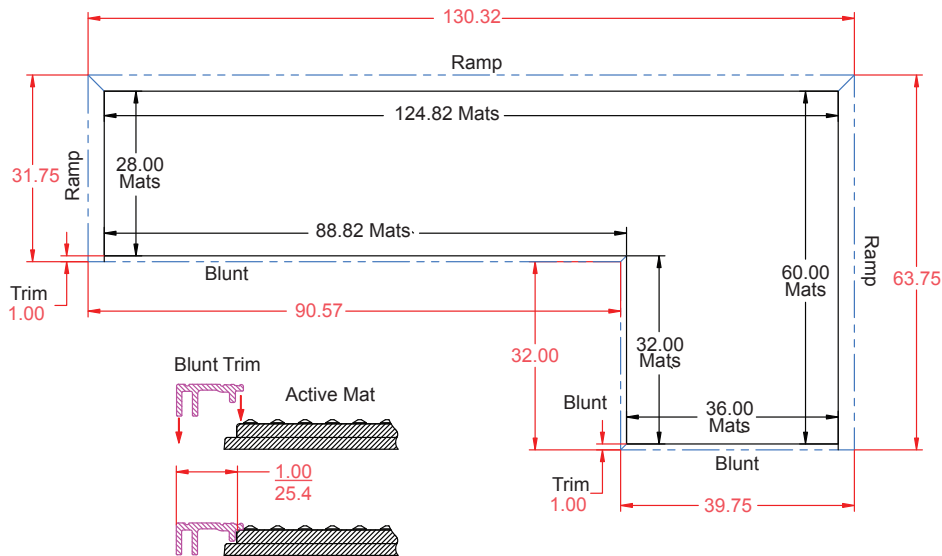
Typical Mat Trim and Examples of Calculations (continued)

Mats with TKS - e.g. TKB with ramp

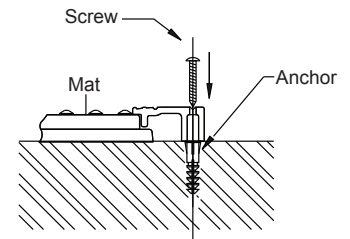
TKB - Blunt trim, one-part aluminum with mitered or right angle corners

Note: TKB adds 1.00 in. (25.4 mm) to mat layout if dimensions do not include trim.

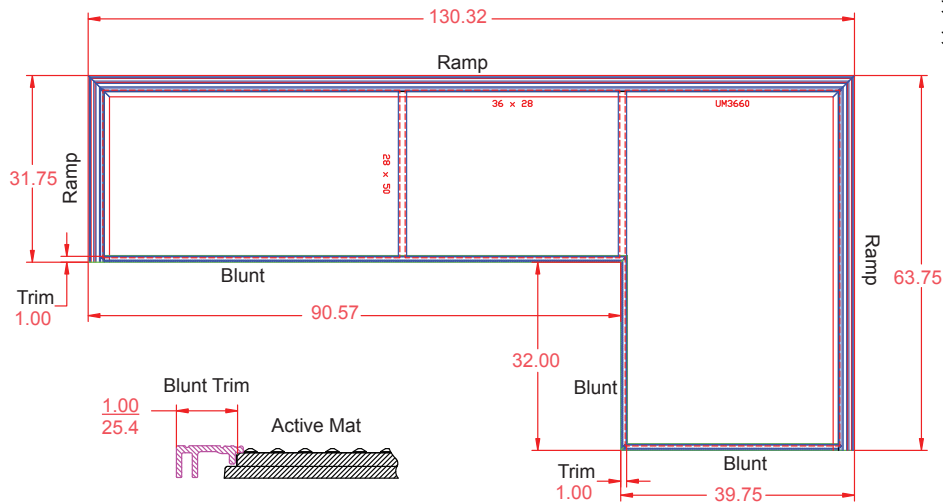
TKB: Outline of mats and trim shown



BLUNT TRIM FASTENING DETAIL



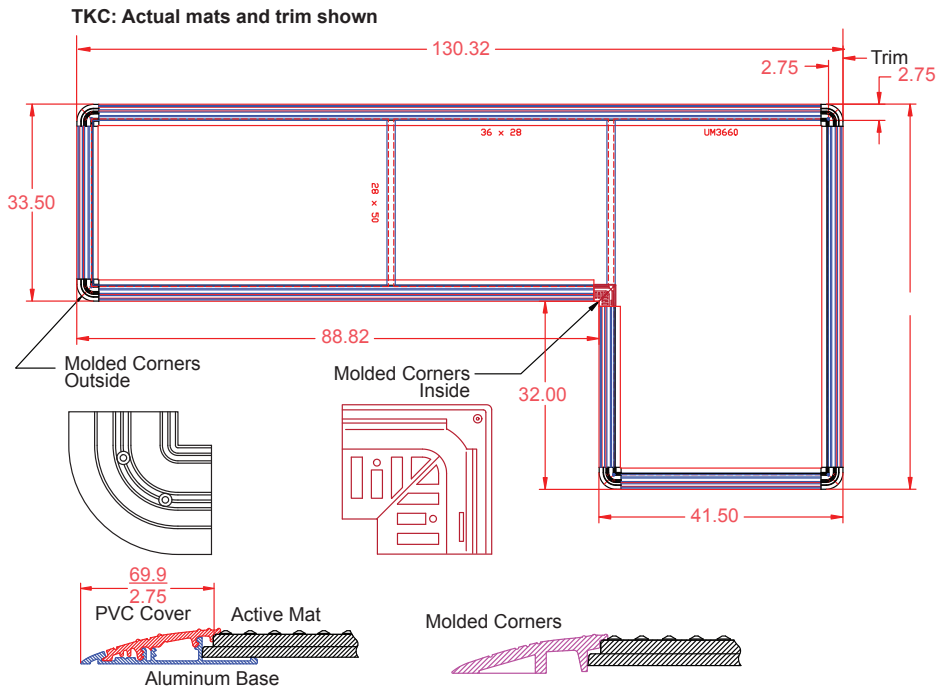
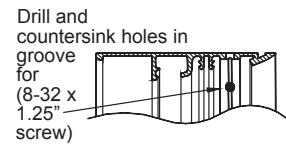
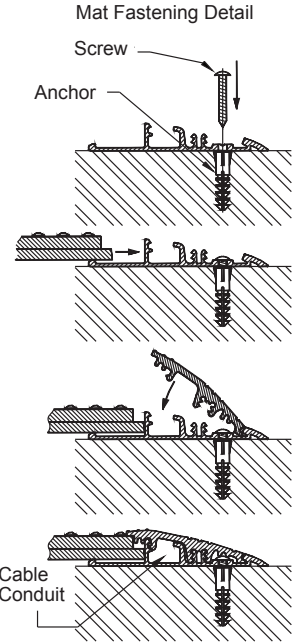
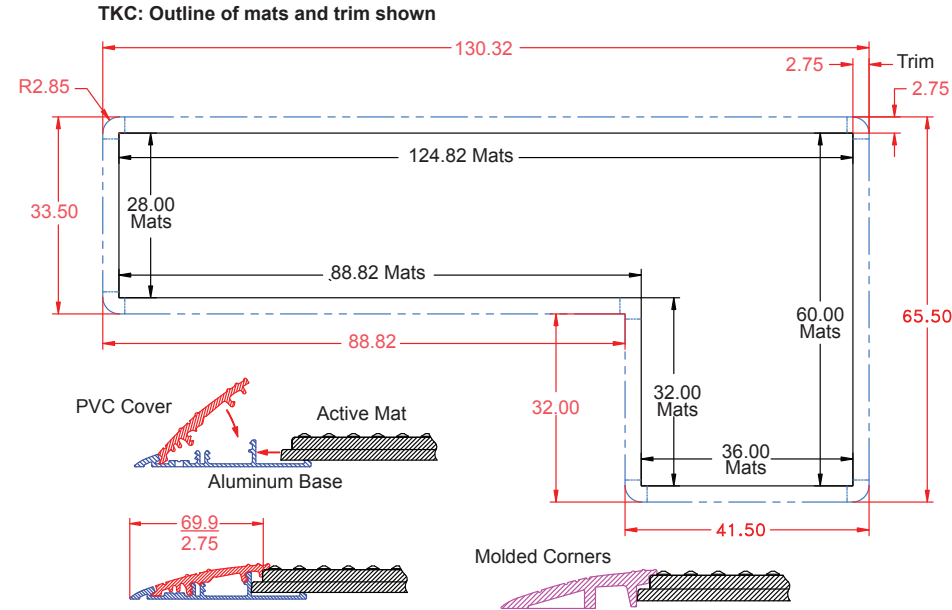
TKB: Actual mats and trim shown



Typical Mat Trim and Examples of Calculations (continued)

Mats with TKC - Ramp trim, aluminum base and PVC cover with molded corners.

Note: TKM adds 2.75 in. (69.9 mm) to mat layout if dimensions do not include trim.



Cable Selection

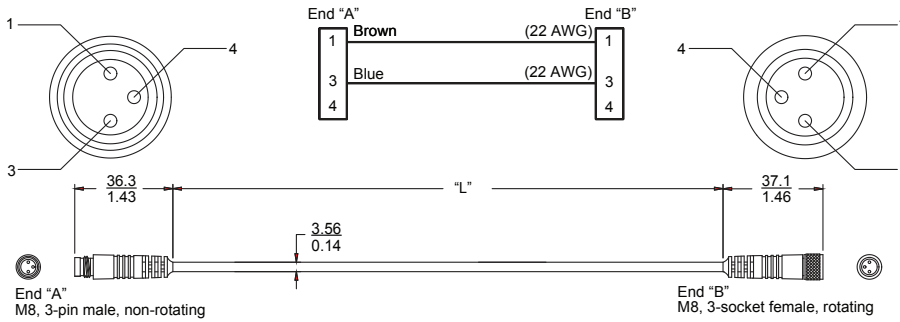
A standard UMA mat comes with two 100mm 2-conductor cables with M8 3-pin connector at two corners of the safety mat. Two 2-conductor M8 3-pin connector extension cables are needed to connect the safety mat to a 4-wire safety controller. To connect to a 2-wire safety mat controller, a terminating resistor and only one 2-conductor M8 3-pin extension cable are needed.

Extension cables come in standard lengths of 2m, 5m, and 10m. Alternatively the UMA mat can come with one short 4-conductor quick disconnect cable at one of the corners of the safety mat. A 4-conductor extension cable with an M8 4-pin connector is needed to connect the safety mat to a 4-wire safety controller MC3 or MC6. Standard cable length is 5m and 10m.

Extension Cables

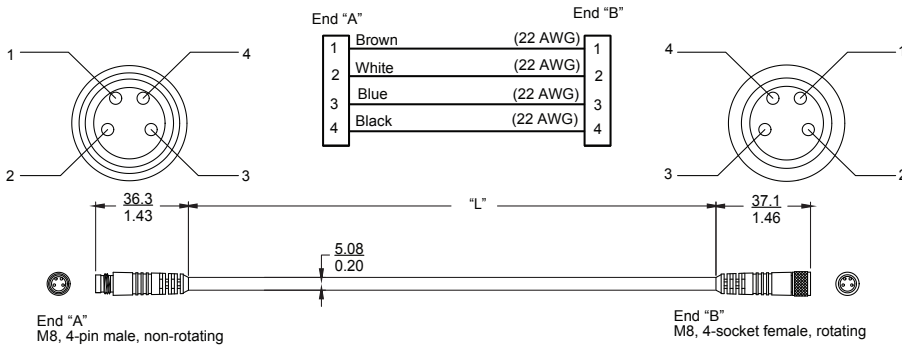
M8 3P Male - Female Extension Cable to use with 2-wire mats

Model: UMA-CBL-3PMF-M8-□M



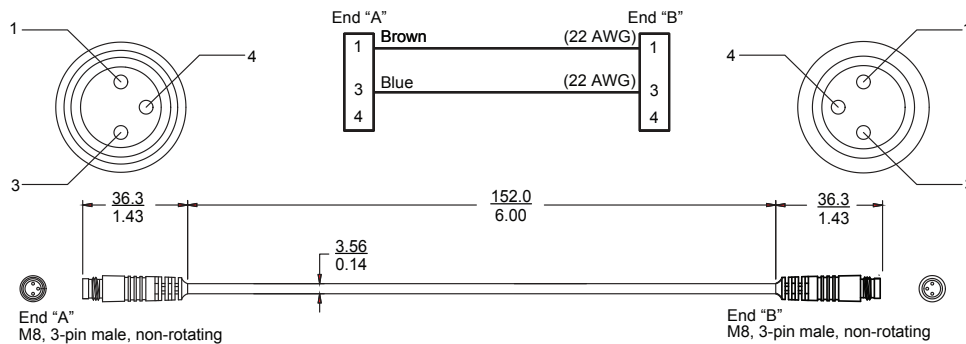
M8 4P Male - Female Extension Cable to use with 4-wire mats

Model: UMA-CBL-4PMF-M8-□M



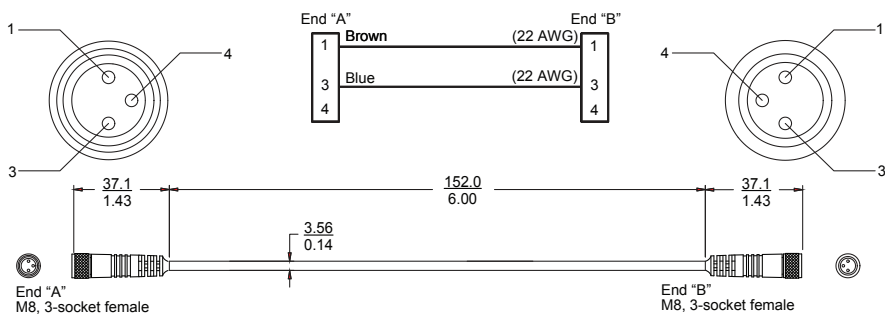
M8 3P Male - Male 6 in. (152 mm) Extension Cable to use with 2-wire mats

Model: UMA-CBL-3PMM-M8-0.15M



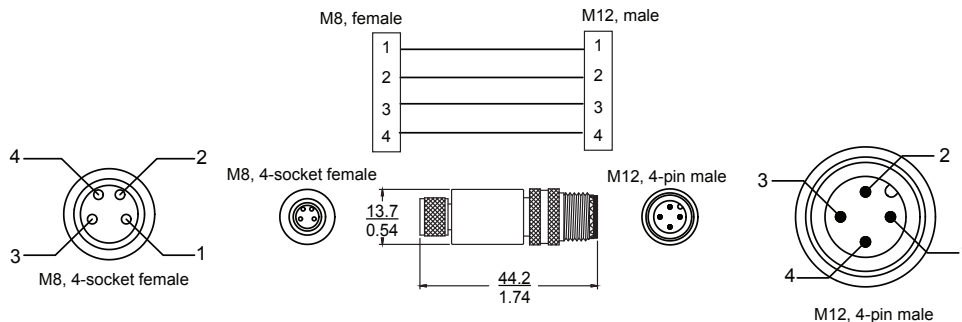
Cable Selection (continued)

M8 3P Female - Female 6 in. (152 mm) Extension Cable to use with 2-wire mats
Model: UMA-CBL-3PFF-M8-0.15M

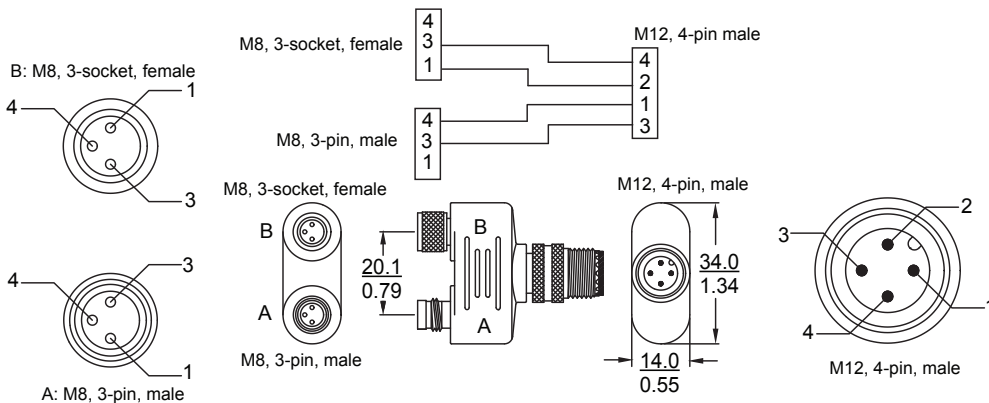


Adapters for MC6 only

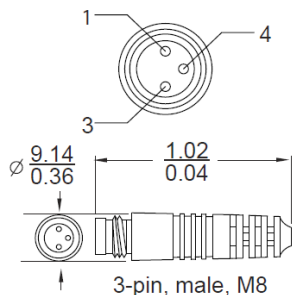
M8 Female -M12 Male Connector
Model No: UMA-SA-4PF-M8-4PM-M12



M8-M12, 3P-4P, Y Connector
Model No: UMA-YA-3PMF-M8-4PM-M12



UMA-TRES



Ordering

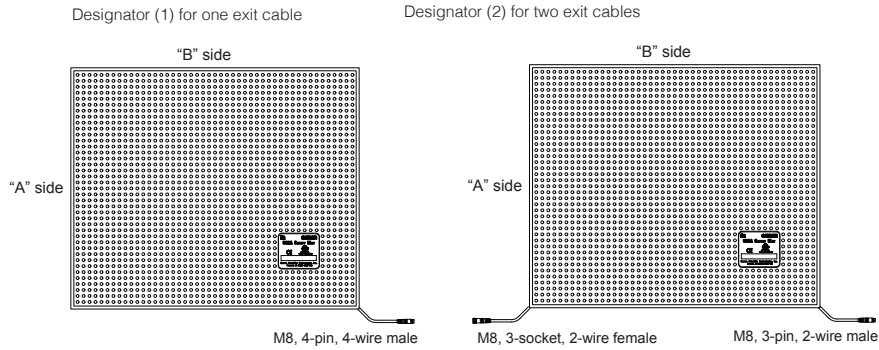
Ordering a Standard UMA Mat System

A Quick Disconnect UMA Mat System contains at least one mat, a 2 m, 5 m or 10 m cable, sufficient perimeter and joining trim and a controller. For multiple mat installations using a 4-wire DIN rail mount controller, the mats are connected in series to the controller. When using the MC6 controller, six mats may be connected directly to the controller.

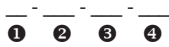
Each component of a Universal Mat system must be ordered individually

Mats are available in black or yellow. Yellow mats are denoted by placing a "Y" in the ordering code. The exit cable location is specified by letter code at the end of the ordering number. Cable extensions must be ordered separately.

To order a Universal Mat System, simply fill in the fields in the model number sequence given.



Mat Ordering Code (inch dimensions):



Example: UMA-24-60-1

This example is a 24 x 60 in. standard blackmat with one 4-pin cable.

1 Information required. Represents mat type and color.

Designator	Description
UMA	Standard black mat
UMYA	Standard yellow mat
UMMA	Metric black mat
UMMYA	Metric yellow mat

2 3 Information required. Represents the mat size. Dimensions are for active mat area. Mats are an additional 0.5 in. in each dimension. Choose one value from each column.

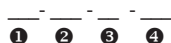
2 Standard Mat Widths in inches Designator A	3 Standard Mat Widths in inches Designator B
12 (12 in./304.8 mm)	12 (12 in./304.8 mm)
18 (18 in./457.2 mm)	18 (18 in./457.2 mm)
24 (24 in./609.6 mm)	24 (24 in./609.6 mm)
30 (30 in./762 mm)	30 (30 in./762 mm)
36 (36 in./914.4 mm)	36 (36 in./914.4 mm)
42 (42 in./1066.8 mm)	42 (42 in./1066.8 mm)
48 (48 in./1219.2 mm)	48 (48 in./1219.2 mm)
54 (54 in./1371.6 mm)	54 (54 in./1371.6 mm)
60 (60 in./1524 mm)	60 (60 in./1524 mm)
66 (66 in./1676.4 mm)	66 (66 in./1676.4 mm)
72 (72 in./1828.8 mm)	72 (72 in./1828.8 mm)
Special Standard Sizes*	
Restriction: Maximum size is 48 in. x 72 in. or 72 in. x 48 in.	

4 Information required. Exit cable configuration.

Designator	Description
1	One 4-pin cable
2	Two 3-pin cable

Ordering (continued)

Mat Ordering Code (metric dimensions):



Example: UMMA-0500-0500-2

This example is a 500 x 500 mm black metric quick disconnect mat with two 3-pin cable.

1 Information required. Represents mat type and color.

Designator	Description
UMA	Standard black mat
UMYA	Standard yellow mat
UMMA	Metric black mat
UMMYA	Metric yellow mat

2 3 Information required. Represents the mat size. Dimensions are for active mat area. Mats are an additional 250 mm in each dimension. Choose one value from each column.

2 Metric Mat Widths in mm (inches) Designator A	3 Metric Mat Widths in mm (inches) Designator B
0500 (500 mm/19.7 in.)	0500 (500 mm/19.7 in.)
0750 (750 mm/29.5 in.)	0750 (750 mm/29.5 in.)
1000 (1000 mm/39.4 in.)	1000 (1000 mm/39.4 in.)
1200 (1200 mm/47.24 in.)	1200 (1200 mm/47.2 in.)
1250 (1250 mm/49.2 in.)	1250 (1250 mm/49.2 in.)
1500 (1500 mm/59.1 in.)	1500 (1500 mm/59.1 in.)
1750 (1750 mm/68.9 in.)	1750 (1750 mm/68.9 in.)
1800 (1800 mm/70.9 in.)	1800 (1800 mm/70.9 in.)
Restriction: Maximum size is 1200 mm x 1800 mm or 1800 mm x 1200 mm	

4 Information required. Exit cable configuration.

Designator	Description
1	One 4-pin cable
2	Two 3-pin cable

Ordering a Custom Mat

Mats are available in special sizes (0.5 inch increments), cut-outs, and angles, in both inches and metric systems. Please provide a sketch with all dimensions on the Custom Safety Mat Layout form, the factory will issue model numbers. All 'specials' will have model number ending in "SP".

Fill out the custom safety mat layout form at the end of the brochure so that we can help you with your special need.

Custom Mat Nomenclature (inch and metric demensions) - Factory Issued:



Example 1: UMA-28.5-27.5-1-SP

This example is a 28.5 in. x 27.5 in. black mat with one 4-pin cable.

Example 2: UMA-28.5-27.5-1-SP0001

This example is a 28.5 in. x 27.5 in. black mat with one 4-pin cable, and have special work instructions that was issued by the factory.

1 Information required. Represents mat type and color.

Designator	Description
UMA	Standard black mat
UMYA	Standard yellow mat
UMMA	Metric black mat
UMMYA	Metric yellow mat

4 Information required. Exit cable configuration.

Designator	Description
1	One 4-pin cable
2	Two 3-pin cable

5 Information required. Represent that mat is a custom size and/or shape

2 3 Represents the mat size. Dimensions are for active mat area. Choose one value from each column.

2 Mat Widths Designator A	3 Mat Widths Designator B
### inches, ie. 28.5	### inches, ie. 27.5
#### mm, ie. 0725	#### mm, ie. 0700

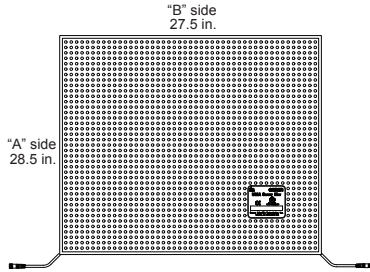
Designator	Description
SP	Custom size mat. Represents special modification beyond different dimensions of a rectangular shape mat.
—	Blank - Rectangular mat
####	Numeral from 0000 - 9999, indicates special factory work instructions for cut outs and other modification

Ordering (continued)

Examples:

- For a Non-Standard Size Rectangular without cutouts, and angles

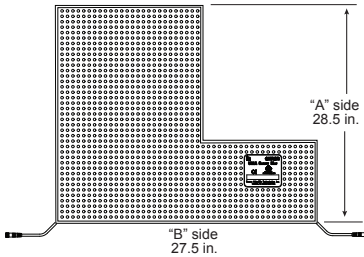
This example is a non-standard size 28.5 in. x 27.5 in. black quick disconnect mat, two 3-pin cable.



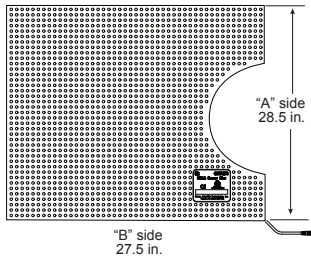
Example: UMA-28.5-27.5-2-SP

- For a Non-Standard Size Rectangular with cutouts, and angles

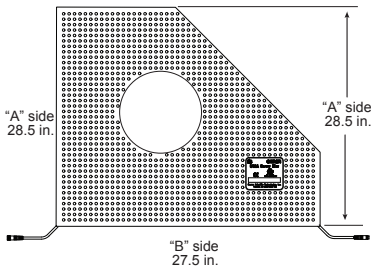
For mats with special sizes, cut-outs, and angles, please provide a sketch with all dimensions on the Custom Safety Mat Layout form, the factory will issue special work instructions. Specials will end with "-SPXXXX" (sequential number specified by the factory). Please see examples below:



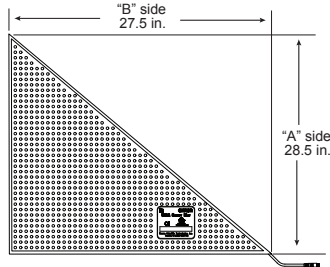
Example: UMA-28.5-27.5-2-SP0001



Example: UMA-28.5-27.5-1-SP0002



Example: UMA-28.5-27.5-2-SP0003



Example: UMA-28.5-27.5-1-SP0004

Ordering (continued)

Ordering Perimeter Trim for a Single Mat

Current TK_ imperial dimension trim kits used with the UMQ mats are backwards compatible; however, due to slight dimensional differences MTK_ metric trim kits are not backwards compatible. Metric trim kits for the UMA end with an "A", i.e. MTKMA. To order Perimeter Trim for a single mat, simply fill in the fields in the model number sequence given below.

Imperial Trim Kit Ordering Code (inch dimensions):

① - ② - ③

Example: TKM-1266
This example is a trim kit with mitered corners to fit a 12 x 66 in. standard mat.

Metric Trim Kit Ordering Code (millimeter dimensions):

① - ② - ③

Example: MTKMA-0500-0500
This example is a trim kit with mitered corners to fit a 500 x 500 mm standard mat.

① Information required. Represents trim type.

Designator	Description
TKM	Standard trim kit, 2-part mitered corners with PVC top cover
TKAT	Standard trim kit, 2-part mitered corners with aluminum top cover
TKC	Standard trim kit, 2-part with molded corners with PVC top cover
TKA	Standard trim kit, single part aluminum ramp trim (mitered only)
TKB	Blunt time, one-part aluminum with mitered or right angle corners

① Information required. Represents trim type.

Designator	Description
MTKMA	Metric trim kit with mitered corners
MTKCA	Metric trim kit with molded corners

② ③ Information required. Represents the mat size. Dimensions are for active mat area. Mats are an additional 0.5 in. in each dimension. Choose one value from each column.

② Trim Kit for Standard Mat Widths in inches Designator A	③ Trim Kit for Standard Mat Widths in inches Designator B
12	12
18	18
24	24
30	30
36	36
42	42
48	48
54	54
60	60
66	66
72	72
Special Standard Sizes*	
Restriction: Maximum size is 48 in. x 72 in. or 72 in. x 48 in.	

② ③ Information required. Represents the mat size. Dimensions are for active mat area. Mats are an additional 250 mm. in each dimension. Choose one value from each column.

② Metric Mat Widths in mm Designator A	③ Metric Mat Widths in mm (inches) Designator B
0500	0500
0750	0750
1000	1000
1200	1200
1250	1250
1500	1500
1750	1750
1800	1800
Restriction: Maximum size is 1200 mm x 1800 mm or 1800 mm x 1200 mm	

Ordering (continued)

Trim and Cable Accessories for Standard and Metric Sized Mats

Model No.	Description	Weight
UMRT4	Bulk two-part ramp trim with yellow PVC cover 1.22 m (48 in.) length	1.5 kg (3.3 lb.)
UMRT	Bulk two-part ramp trim with yellow PVC cover 2.44 m (96 in.) length	3.0 kg (6.6 lb.)
UMRT8A	Bulk two-part ramp trim with aluminum top 2.44 m (96 in.) length	3.2 kg (7.0 lb.)
UMJS4	Bulk two-part active joining trim 1.22 m (48 in.) length	1.4 kg (3.0 lb.)
UMJS8	Bulk two-part active joining trim 2.44 m (96 in.) length	2.7 kg (6.0 lb.)
UMJTC8Y	Bulk joining trim cover yellow 2.44 m (96 in.)	0.5 kg (1.0 lb.)
UMBT4	Bulk blunt trim 1.22 m (48 in.) length	1.1 kg (2.5 lb.)
UMBT8	Bulk blunt trim 2.44 m (96 in.) length	2.3 kg (5.0 lb.)
UMAL	Bulk aluminum ramp trim 2.44 m (96 in.)	2.9 kg (6.5 lb.)
UMOC	Molded outside corner	
UMIC	Molded inside corner	
UMA-SA-4PF-M8-4PM-M12	M8 female to M12 male adapter for use with MC6	
UMA-YA-3PMF-M8-4PM-M12	M8 to M12 3-pin to 4-pin Y adapter for use with MC6	
UMA-CBL-3PMF-M8-02M	M8, 3-pin male to female extension cable 2 m (78.7 in.) length for 2-wire mats	
UMA-CBL-3PMF-M8-05M	M8, 3-pin male to female extension cable 5 m (296.9 in.) length for 2-wire mats	
UMA-CBL-3PMF-M8-10M	M8, 3-pin male to female extension cable 10 m (393.7 in.) length for 2-wire mats	
UMA-CBL-4PMF-M8-05M	M8, 4-pin male to female extension cable 5 m (296.9 in.) length for 4-wire mats	
UMA-CBL-4PMF-M8-10M	M8, 4-pin male to female extension cable 10 m (393.7 in.) length for 4-wire mats	
UMA-CBL-3PMM-M8-0.15M	M8, 3-pin male to male extension cable 152 mm (6 in.) length for 2-wire mats	
UMA-CBL-3PFF-M8-0.15M	M8, 3-socket female to female extension cable 152 mm (6 in.) length for 2-wire mats	
UMA-TRES	Terminating adapter, 8.2K Ω for 2-wire mats	

OMRON AUTOMATION AMERICAS HEADQUARTERS • Chicago, IL USA • 847.843.7900 • 800.556.6766 • www.omron247.com

OMRON CANADA, INC. • HEAD OFFICE

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • www.omron247.com

OMRON ELECTRONICS DE MEXICO • HEAD OFFICE

México DF • 52.55.59.01.43.00 • 01-800-226-6766 • mela@omron.com

OMRON ELECTRONICS DE MEXICO • SALES OFFICE

Apodaca, N.L. • 52.81.11.56.99.20 • 01-800-226-6766 • mela@omron.com

OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE

São Paulo, SP, Brasil • 55.11.2101.6300 • www.omron.com.br

OMRON ARGENTINA • SALES OFFICE

Cono Sur • 54.11.4783.5300

OMRON CHILE • SALES OFFICE

Santiago • 56.9.9917.3920

OTHER OMRON LATIN AMERICA SALES

54.11.4783.5300

OMRON EUROPE B.V. • Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. • +31 (0) 23 568 13 00 • www.industrial.omron.eu

Authorized Distributor:

Controllers & I/O

- Machine Automation Controllers (MAC) • Motion Controllers
- Programmable Logic Controllers (PLC) • Temperature Controllers • Remote I/O

Robotics

- Industrial Robots • Mobile Robots

Operator Interfaces

- Human Machine Interface (HMI)

Motion & Drives

- Machine Automation Controllers (MAC) • Motion Controllers • Servo Systems
- Frequency Inverters

Vision, Measurement & Identification

- Vision Sensors & Systems • Measurement Sensors • Auto Identification Systems

Sensing

- Photoelectric Sensors • Fiber-Optic Sensors • Proximity Sensors
- Rotary Encoders • Ultrasonic Sensors

Safety

- Safety Light Curtains • Safety Laser Scanners • Programmable Safety Systems
- Safety Mats and Edges • Safety Door Switches • Emergency Stop Devices
- Safety Switches & Operator Controls • Safety Monitoring/Force-guided Relays

Control Components

- Power Supplies • Timers • Counters • Programmable Relays
- Digital Panel Meters • Monitoring Products

Switches & Relays

- Limit Switches • Pushbutton Switches • Electromechanical Relays
- Solid State Relays

Software

- Programming & Configuration • Runtime