

Serving the Automation & Control Industry since 1984





57.9

# DOLD & DIN Enclosures

60.4



# Altech's DIN Enclosures \*\* DOLD &

Since 1984 Altech Corporation has grown to become a leading supplier of automation and industrial control components. Headquartered in Flemington, NJ, Altech has an experienced staff of engineering, manufacturing and sales personnel to provide the highest quality products with superior service. This is the Altech Commitment!

Build or maintain your competitive edge in the world markets. Enhance the value of your products and devices by packaging them attractively with enclosures from Altech. Applications are limitless. Our compact DIN enclosures are ideal for housing electrical, electronic and electromechanical devices including relays, sensing and monitoring devices, timers, transducers, printed circuit boards and more.

Altech's line of DIN Enclosures are manufactured by **DOLD**<sup>&</sup>, a company well know in Europe for its quality DIN Enclosures and Safety Relays. They offer the most comprehensive selection of DIN enclosures available. These versatile housings are economical, easy to assemble and install. They provide protection and integral, ready-to-wire terminals in one attractive package. And at a level of quality that meets or exceeds national and international standards for performance and safety.

Wide Range of Sizes and Designs, Choice of Cover Styles, Terminal-To-Board Connection Options and 35mm DIN Rail or Panel Mount. Only flame retardant, maintenance free materials are used for safety, and to insure that your control devices look good for many years to come.

Customizing is easy. We can cut special holes and cutouts for operating, setting or indicating components that you may wish to install into the front panel. Terminals can be marked for quick identification and efficient field wiring. Instructions and custom markings can be imprinted. Our enclosures can even be molded in custom colors and custom configurations (OEM quantities). Whatever your requirements may be, we will do our best to help you meet them.

Our well trained technical experts welcome the opportunity to answer your technical questions and provide solutions to your automation and control needs. Give us a call or visit www.altechcorp.com.

# Quality Commitment

Altech's control components meet diverse national and international

standards such as UL, NEC, CSA IEC VDE and more. Altech provides superior customer service and delivery through Total Quality Management and Continuous Process Improvement. Altech is ISO 9001 approved. We perform these services with honesty and integrity and are committed to achieve these goals.



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12 - 39







# **KS4400**

The KS4400 series is simple, modular and flexible yet highly functional. The half shell design is cost effective and provides exceptional space utilization. Three levels of terminals with fixed and pluggable PCB terminal options allow for high density connections. A large front face area provides ample space for operator, communication and visual display components.

- DIN Rail Mount
- Fixed and Pluggable Terminals
- High Density Terminal Configuration

### K04700

Our most popular enclosures, the KO4700 series offer a wide range of sizes with single and double level terminal configurations. They can be used for a wide range of applications. Complete with 8 to 132 terminals, select from pressure plate or box clamp terminations with fixed or pluggable terminal-to-board connections. Several cover designs add to the versatility of this series.

- DIN Rail or Panel Mount
- Fixed and Pluggable Designs
- Snap-On Keyed Covers
- Integral PC Board Guides

• Compact, Snap-together

- Standard Color: Black Housing Shell with Tan Cover
- Modular Terminal Enclosures, pages 32-39

Standard Color: Black Housing with Gray Front Plate

### **K70**

K70 series enclosures include a range of small to medium size DIN enclosures, complete with 8 to 32 terminals. They offer cost effective solutions for many applications. The K70s are supplied with integral pressure plate terminals for reliable connections. Terminal-to-board connections include fixed and pluggable solutions.

• Fixed and Pluggable Designs

Standard Color: Light Gray

- DIN Rail or Panel Mount
- Integral PC Board Guides
- Snap-On Covers
- **KU4000**

The versatile KU4000 series enclosures feature generous internal space for printed circuit boards and electronic components. High density, double level snap-in terminals are of the pressure plate or spring cage design for gastight, vibration proof connections. Straight or angled solder pins offer flexibility in board layout. All versions have machine solderable terminals. KU4000 housings fit into standard 45mm (1.77 in.) high international style cutouts.

- DIN Rail or Panel Mount
- Integral PC Board Guides
- Standard Color: Light Gray
- Front Fits 45mm (1.77 in.) Cutouts

with 16 to 64 terminals in 22.5 to 90 mm widths.

### **KU4100**

The versatile KU4100 series features a compact design with different terminal configuration options. They are available in six widths with double level terminal locations. Terminal configuration options include blank enclosures with no terminal openings, fixed PCB terminals and pluggable PCB terminals.

• DIN Rail Mount

K04300

- Front Fits 45mm (1.77 in.) Cutouts
- Integral PC Board Guides
- Fixed and Pluggable Terminals

The KO4300 series offers new design styling and cost effectiveness in a high density compact package. The double level terminals offer space savings while providing gas-tight, vibration proof connections. The enclosures are available

• Compact High Density Design

Standard Color: Light Gray

• Standard Color: Light Gray Cover with Black Base



85-89





# K04070

• DIN Rail Mount

• Machine Solderable Pins

• Integral PC Board Guides

Compact, cost effective enclosures are ideal for I/O circuits, relays, timers and other small control devices. The KO4070 series enclosures are available in three widths with single and multi-level terminals. They are supplied complete with 4 to 16 box clamp type terminals that are machine solderable.

• DIN Rail Mount • Integral PC Board Guides Machine Solderable Terminals • Standard Color: Light Gray 90-95 • Compact, Snap-Together 

48-73

40-47





- Terminal Cover Plugs Available



# KS4400 Series



The KS4400 series is simple, modular and flexible yet highly functional. The half shell design is cost effective and provides exceptional space utilization. Three levels of terminals with fixed and pluggable PCB terminal options allow for high density connections. A large front face area provides ample space for operator, communication and visual display components.

#### MATERIALS

#### Housing

Housing Shell: Polyamide, Glass Filled; Front Plate: PBT

#### Terminals

Housing: Polyamide; Terminal Pins: Tinned Brass

Temperature Rating: 120°C (248°F) UL94V0

**Standard Color:** Black Housing with Gray Front Plate Other colors are available upon request.

#### PROTECTION

KS4400 enclosures have an IP40 rating, IP20 for terminal openings (finger protected) and meet VBG4 and other European accident prevention requirements.

#### CONSTRUCTION

The KS4400 enclosure series housings are supplied as unassembled kits. Each kit consists of two half shells, a front plate, DIN rail clip and terminal sets. The terminals are set on three levels to maximize space. The terminals are machine solderable with right angle pins. PC boards are mounted vertically in the enclosure, perpendicular to the DIN rail.

#### **TERMINALS**

The terminals are available as fixed or pluggable PCB terminals. The terminal blocks are all machine solderable. Fixed PCB terminals are standard screw cage clamp style terminal blocks.

Pluggable PCB terminals feature male pin headers and female screw cage clamp or spring cage clamp plugs that can be plugged/unplugged. Terminal spaces can also be left blank and covered with a snap in cover (terminal blanking plug).

#### MOUNTING

The KS4400 series can easily be mounted on standard 35mm DIN rail by means of the integral mounting foot and DIN clip.

#### MARKING

The KS4400 series have large marking areas on the front of the cover.

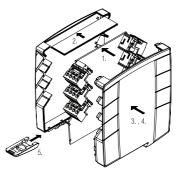
#### **CUSTOMIZATION**

We can supply the KS4400 series enclosures with many custom options including:

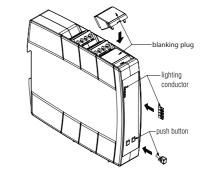
- Partial or mixed terminal loading
   Printing/Marking
- Enclosure bus connections
- Ventilation Slots
- Machining of custom holes
   Hinged front covers
- Front cover with test buttons

#### ASSEMBLY OF ENCLOSURE

- 1 With terminals fitted, place the PCB in the first enclosure half shell.
- 2 Slide the front plate in the slot in the first enclosure half shell.
- 3 Place this assembly flat and line-up the second half shell so that the front plate slides into the slot.
- 4 Manually close both half shells until they snap together.
- 5 Insert the DIN rail mounting clip into the base of the enclosure.



#### **ACCESSORIES AND OPTIONS**



Application Example



# Altech

8 Terminal

**Screw Terminals** 



#### **TECHNICAL INFORMATION**

Electrical: 10A, 300V, 20-14AWG Materials: Housing - PA Hinged Front Plate - PC Temperature Range: Up to 105°C (221°F) Flammability Rating: UL94 V-O Housing UL94 V-2 Front Plate \*Color: Black Housing Transparent Cover Plate Terminal Type: Screw Terminal Screw Size: M3.5 Recommended Torque: 0.6Nm Max. PCB's: (1) Vertical Mounting: 35mm DIN Rail

#### ORDERING INFORMATION

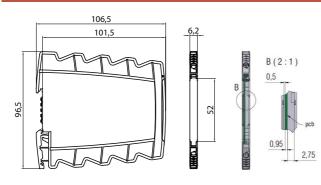
Part Number	Туре	Termina
90.110	KS4460	Screw

# rminalsPCB ConnectionScrewSolder Pin

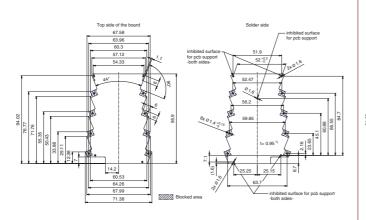
#### ACCESSORIES

Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



8 Terminal Spring Terminals



#### **TECHNICAL INFORMATION**

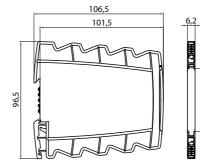
Electrical: 10A, 300V, 20-14AWG Materials: Housing - PA Hinged Front Plate - PC Temperature Range: Up to 105°C (221°F) Flammability Rating: UL94 V-O Housing UL94 V-2 Front Plate

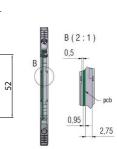
#### \*Color: Black Housing Transparent Cover Plate Terminal Type: Spring Terminal Screw Size: – Recommended Torque: – Max. PCB's: (1) Vertical Mounting: 35mm DIN Rail

# ORDERING INFORMATION Part Number Type Terminals PCB Connection 90.115 KS4460 Spring Solder Pin

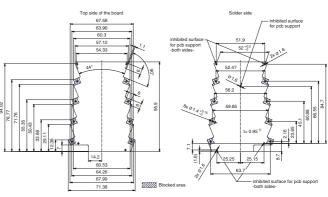
ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)





#### PCB DRAWING (To convert to inches divide by 25.4.)



\*Other colors are available upon request.

# Altech

# **12 Terminal**

**Fixed Terminals** 



#### **TECHNICAL INFORMATION**

**Electrical:** 10A, 300V, 22-14AWG Materials: Housing - PA-GF Front Plate - PBT Terminals - PA **Temperature Range:** Up to 120°C (248°F) Flammability Rating: UL94 V-O

\*Color: Black Housing Gray Cover Plate **Terminal Type:** Fixed Screw Terminal Screw Size: M2.5 **Recommended Torque:** 0.5Nm Max. PCB's: (1) Vertical Mounting: 35mm DIN Rail

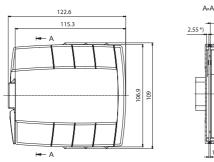
#### **ORDERING INFORMATION**

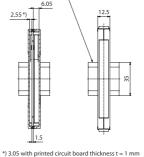
Part Number	Туре	Terminals	PCB Connection
90.120	KS4401/F	Fixed Screw	Machine Solder

#### ACCESSORIES

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Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

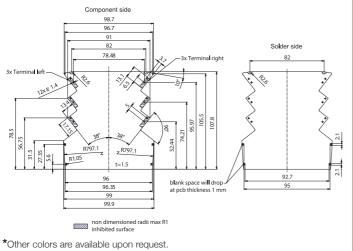
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)





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PCB DRAWING (To convert to inches divide by 25.4.)



# **12 Terminal**

**Pluggable Terminals** 



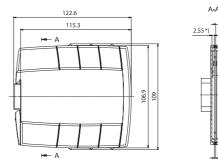
<b>TECHNICAL INFORMATION</b>		
Electrical:	*Color:Black Housing	
10A, 300V, 30-12AWG (Screw);	Gray Cover Plate	
10A, 300V, 26-12AWG (Spring)	Terminal Type:	
Materials:	Pluggable Screw /	
Housing - PA-GF	Pluggable Spring	
Front Plate - PBT	Terminal Screw Size: M2.5	
Terminals - PA	Recommended Torque:	
Temperature Range:	0.5Nm	
Up to 120°C (248°F)	Max. PCB's:	
Flammability Rating:	(1) Vertical	
UL94 V-O	Mounting:	
	35mm DIN Rail	
ORDERING INFORMATION		
Part Number Type	Terminals PCB Connection	
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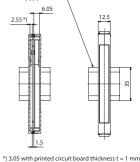
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Part Number	Туре	Terminals	PCB Connection
90.121	KS4401/PS	Pluggable Screw	Machine Solder
90.122	KS4401/PC	Pluggable Spring	Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

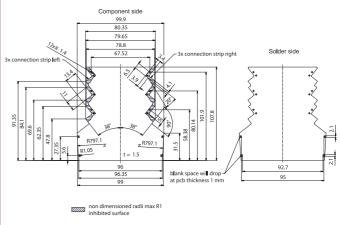






-DIN Rail

#### PCB DRAWING (To convert to inches divide by 25.4.)



## 18 Terminal

**Fixed Terminals** 



#### **TECHNICAL INFORMATION**

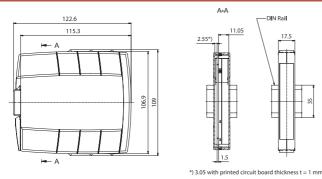
Electrical: 10A, 300V, 22-14AWG Materials: Housing - PA-GF Front Plate - PBT Terminals - PA Temperature Range: Up to 120°C (248°F) Flammability Rating: UL94 V-O \*Color:Black Housing Gray Cover Plate Terminal Type: Fixed Screw Terminal Screw Size: M2.5 Recommended Torque: 0.5Nm Max. PCB's: (1) Vertical Mounting: 35mm DIN Rail

ORDERING INFORMATION			
Part Number	Туре	Terminals	PCB Connection
90.130	KS4402/F	Fixed Screw	Machine Solder

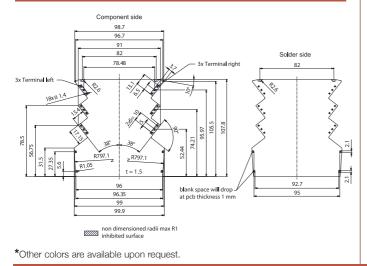
#### ACCESSORIES

Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



### **18 Terminal**

**Pluggable Terminals** 

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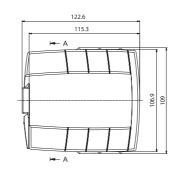
TECHNICAL INFORMATION	
Electrical:	*Color:Black Housing
10A, 300V, 30-12AWG (Screw);	Gray Cover Plate
10A, 300V, 26-12AWG (Spring)	Terminal Type:
Materials:	Pluggable Screw /
Housing - PA-GF	Pluggable Spring
Front Plate - PBT	Terminal Screw Size: M2.5
Terminals - PA	Recommended Torque:
Temperature Range:	0.5Nm
Up to 120°C (248°F)	Max. PCB's:
Flammability Rating:	(1) Vertical
UL94 V-O	Mounting:
	35mm DIN Rail
ORDERING INFORMATION	

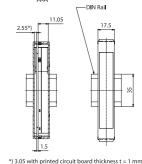
# Part Number Type Terminals PCB Connection 90.131 KS4402/PS Pluggable Screw Machine Solder 90.132 KS4402/PC Pluggable Spring Machine Solder

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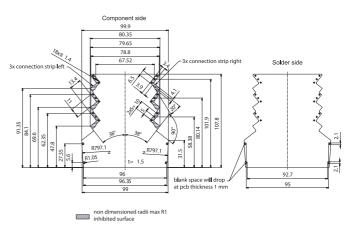
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)





A-A



# Altech

# 24 Terminal

**Fixed Terminals** 



#### **TECHNICAL INFORMATION**

#### **Electrical:**

10A, 300V, 22-14AWG Materials: Housing - PA-GF Front Plate - PBT Terminals - PA Temperature Range: Up to 120°C (248°F) Flammability Rating: UL94 V-O

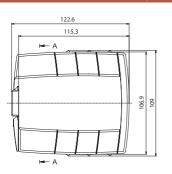
#### \*Color:Black Housing Gray Cover Plate Terminal Type: Fixed Screw Terminal Screw Size: M2.5 Recommended Torque: 0.5Nm Max. PCB's: (1) Vertical Mounting: 35mm DIN Rail

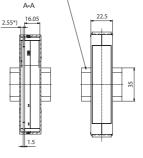
ORDERING I	NFORMATI	ON	
Part Number	Туре	Terminals	PCB Connection
90.140	KS4403/F	Fixed Screw	Machine Solder

#### ACCESSORIES

Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

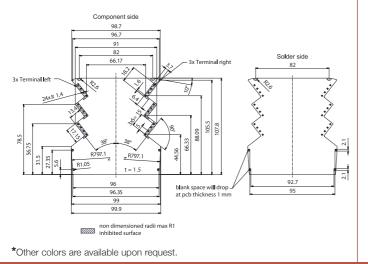




DIN Rail

\*) 3.05 with printed circuit board thickness t = 1 mn  $\,$ 

#### PCB DRAWING (To convert to inches divide by 25.4.)



### **24 Terminal**

**Pluggable Terminals** 

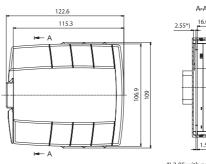


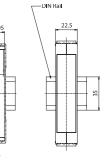
#### **TECHNICAL INFORMATION Electrical:** \*Color:Black Housing 10A, 300V, 30-12AWG (Screw); Gray Cover Plate 10A, 300V, 26-12AWG (Spring) **Terminal Type:** Materials: Pluggable Screw / Housing - PA-GF **Pluggable Spring** Front Plate - PBT Terminal Screw Size: M2.5 Terminals - PA **Recommended Torque: Temperature Range:** 0.5Nm Up to 120°C (248°F) Max. PCB's: **Flammability Rating:** (1) Vertical UL94 V-O Mounting: 35mm DIN Rail

# ORDERING INFORMATION Part Number Type Terminals PCB Connection 90.141 KS4403/PS Pluggable Screw Machine Solder 90.142 KS4403/PC Pluggable Spring Machine Solder

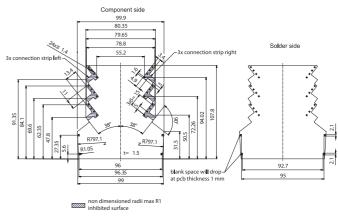
ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)





\*) 3.05 with printed circuit board thickness t = 1 mm



# **36 Terminal**

**Fixed Terminals** 



#### **TECHNICAL INFORMATION**

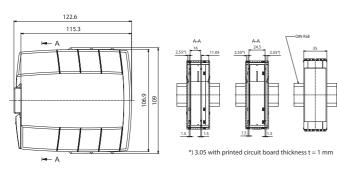
**Electrical:** 10A, 300V, 22-14AWG Materials: Housing - PA-GF Front Plate - PBT Terminals - PA Temperature Range: Up to 120°C (248°F) Flammability Rating: UL94 V-O

\*Color:Black Housing Gray Cover Plate **Terminal Type: Fixed Screw** Terminal Screw Size: M2.5 **Recommended Torque:** 0.5Nm Max. PCB's: (2) Vertical Mounting: 35mm DIN Rail

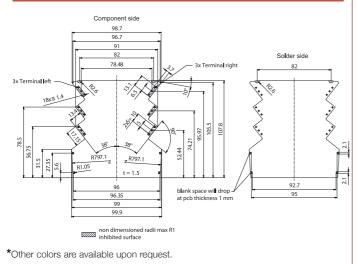
<b>ORDERING I</b>	NFORMATIC	N	
Part Number	Туре	Terminals	PCB Connection
90.150	KS4461/F	Fixed Screw	Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



#### **36 Terminal**

**Pluggable Terminals** 

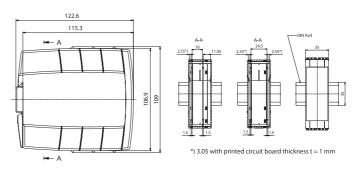


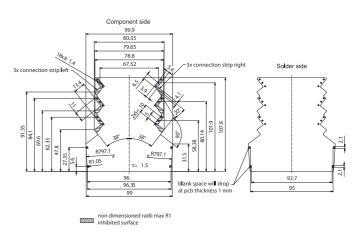
TECHNICAL	INFORMATI	ON		
Electrical:		*Color:Blac	k Housing	
10A, 300V, 3	0-12AWG (Scr	ew); Gray	/ Cover Plate	
10A, 300V, 2	e-12AWG (Spr	ring) Terminal T	ype:	
Materials:		Pluggable	Screw /	
Housing - PA	A-GF	Pluggable	Spring	
Front Plate -	PBT	Terminal S	crew Size: M2.5	
Terminals - F	PA	Recomme	<b>Recommended Torque:</b>	
Temperature Range: 0.5Nm				
Up to 120°C	Up to 120°C (248°F) Max. PCB's:			
Flammability	/ Rating:	(2) Vertica	I	
UL94 V-O		Mounting:		
		35mm DIN	I Rail	
ORDERING	INFORMATIC	ON		
Part Number	Туре	Terminals	PCB Connection	
90.151	KS4461/PS	Pluggable Screw	Machine Solder	

Part Number	Туре	Terminals	PCB Connection
90.151	KS4461/PS	Pluggable Screw	Machine Solder
90.152	KS4461/PC	Pluggable Spring	Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)





# **Altech**



#### **TECHNICAL INFORMATION**

#### **Electrical:**

**48** Terminal

**Fixed Terminals** 

10A, 300V, 22-14AWG Materials: Housing - PA-GF Front Plate - PBT Terminals - PA Temperature Range: Up to 120°C (248°F) Flammability Rating: UL94 V-O

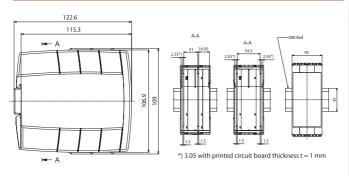
#### \*Color:Black Housing Gray Cover Plate Terminal Type: Fixed Screw Terminal Screw Size: M2.5 Recommended Torque: 0.5Nm Max. PCB's: (2) Vertical Mounting: 35mm DIN Rail

ORDERING INFORMATION			
Part Number	Туре	Terminals	PCB Connection
90.160	KS4404/F	Fixed Screw	Machine Solder

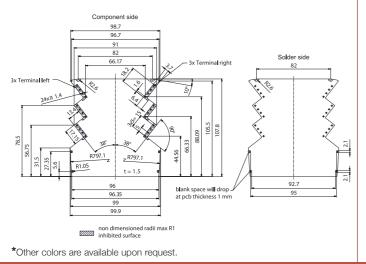
#### ACCESSORIES

Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



48 Terminal

**Pluggable Terminals** 



#### **TECHNICAL INFORMATION**

Electrical:	*Color:Black Housing
10A, 300V, 30-12AWG (Screw);	Gray Cover Plate
10A, 300V, 26-12AWG (Spring)	Terminal Type:
Materials:	Pluggable Screw /
Housing - PA-GF	Pluggable Spring
Front Plate - PBT	Terminal Screw Size: M2.5
Terminals - PA	Recommended Torque:
Temperature Range:	0.5Nm
Up to 120°C (248°F)	Max. PCB's:
Flammability Rating:	(2) Vertical
UL94 V-O	Mounting:
	35mm DIN Rail

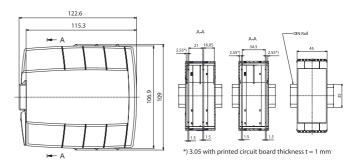
#### ORDERING INFORMATION

Part Number	Туре	Terminals	PCB Connection
90.161	KS4404/PS	Pluggable Screw	Machine Solder
90.162	KS4404/PC	Pluggable Spring	Machine Solder

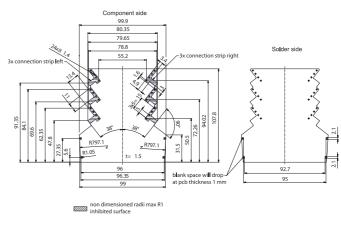
#### ACCESSORIES

Part Number	Туре
2511120/1M	TS35x7.5/1M
90.190	KS4403-5-1
90.191	KS4400-7-1
90.192	KS4400-6-1
	2511120/1M 90.190 90.191

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



# 72 Terminal

**Fixed Terminals** 



#### **TECHNICAL INFORMATION**

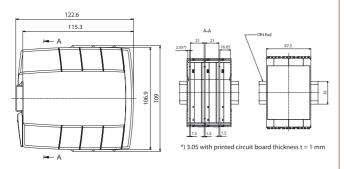
Electrical: 10A, 300V, 22-14AWG Materials: Housing - PA-GF Front Plate - PBT Terminals - PA Temperature Range: Up to 120°C (248°F) Flammability Rating: UL94 V-O \*Color:Black Housing Gray Cover Plate Terminal Type: Fixed Screw Terminal Screw Size: M2.5 Recommended Torque: 0.5Nm Max. PCB's: (3) Vertical Mounting: 35mm DIN Rail

<b>ORDERING I</b>	NFORMATIO	N	
Part Number	Туре	Terminals	PCB Connection
90.170	KS4405/F	Fixed Screw	Machine Solder

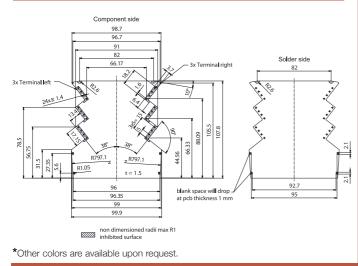
#### ACCESSORIES

ACCECCONNEC		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



### 72 Terminal

**Pluggable Terminals** 

Light Pipes, 5mm Grid

INICAL INFORMATION



TECHNICAL INFORMATION	
Electrical:	*Color:Black Housing
10A, 300V, 30-12AWG (Screw);	Gray Cover Plate
10A, 300V, 26-12AWG (Spring)	Terminal Type:
Materials:	Pluggable Screw /
Housing - PA-GF	Pluggable Spring
Front Plate - PBT	Terminal Screw Size: M2.5
Terminals - PA	Recommended Torque:
Temperature Range:	0.5Nm
Up to 120°C (248°F)	Max. PCB's:
Flammability Rating:	(3) Vertical
UL94 V-O	Mounting:
	35mm DIN Rail
ORDERING INFORMATION	

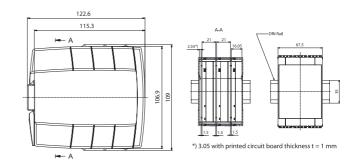
	ORDERING INFORMATION				
Part Number Type		Туре	Terminals	PCB Connection	
	90.171	KS4405/PS	Pluggable Screw	Machine Solder	
	90.172	KS4405/PC	Pluggable Spring	Machine Solder	

# ACCESSORIESAccessoriesPart NumberType1 Meter DIN Rail2511120/1MTS35x7.5/1MTerminal Blanking Plug90.190KS4403-5-1Light Pipes, 3mm Grid90.191KS4400-7-1

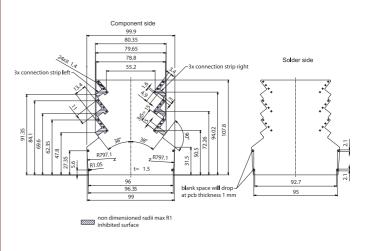
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

90.192

KS4400-6-1



#### PCB DRAWING (To convert to inches divide by 25.4.)



# Altech



#### **TECHNICAL INFORMATION**

**Electrical:** 

96 Terminal

**Fixed Terminals** 

10A, 300V, 22-14AWG Materials: Housing - PA-GF Front Plate - PBT Terminals - PA Temperature Range: Up to 120°C (248°F) Flammability Rating: UL94 V-O

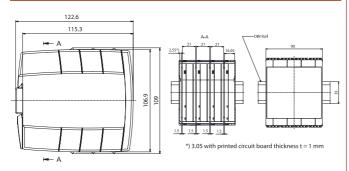
#### \*Color:Black Housing Gray Cover Plate Terminal Type: Fixed Screw Terminal Screw Size: M2.5 Recommended Torque: 0.5Nm Max. PCB's: (4) Vertical Mounting: 35mm DIN Rail

ORDERING I	NFORMATI	ON	
Part Number Type		Terminals	PCB Connection
90.180	KS4406/F	Fixed Screw	Machine Solder

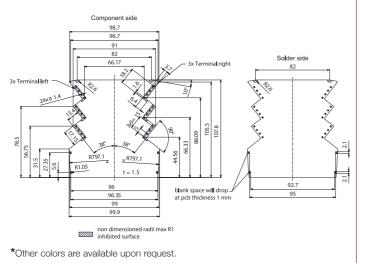
#### ACCESSORIES

Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



### 96 Terminal

**Pluggable Terminals** 



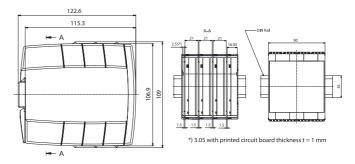
#### **TECHNICAL INFORMATION Electrical:** \*Color:Black Housing 10A, 300V, 30-12AWG (Screw); Gray Cover Plate 10A, 300V, 26-12AWG (Spring) **Terminal Type:** Materials: Pluggable Screw / Housing - PA-GF Pluggable Spring Front Plate - PBT Terminal Screw Size: M2.5 Terminals - PA **Recommended Torque: Temperature Range:** 0.5Nm Up to 120°C (248°F) Max. PCB's: Flammability Rating: (4) Vertical UL94 V-O Mounting: 35mm DIN Rail

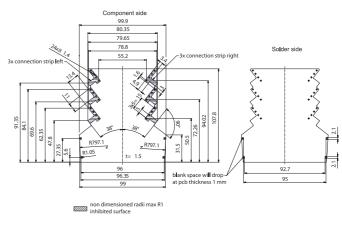
ORDERING INFORMATION					
Part Number Type		Terminals	PCB Connection		
90.181	KS4406/PS	Pluggable Screw	Machine Solder		
90.182	KS4406/PC	Pluggable Spring	Machine Solder		

#### ACCESSORIES

Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Blanking Plug	90.190	KS4403-5-1
Light Pipes, 3mm Grid	90.191	KS4400-7-1
Light Pipes, 5mm Grid	90.192	KS4400-6-1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)







Ideal for industrial applications. Small to large in size, KO4700 enclosures can accommodate 8 to132 terminals for field wire connections. Series KO4700 enclosures can be customized to the exact number of terminals required. Standard enclosures are equipped with the maximum number of terminal strips and terminals. The KO4700 series are available with two types of terminations for connecting external wires. The Pressure Plate type terminals, with a center line spacing of 9mm (.35 in.) and the Box Clamp design, which has a 5mm (.19 in.) center line spacing for much higher density.

#### MATERIALS

#### Housing

Housing Shell: Polycarbonate, 10% Glass Filled Cover: Polycarbonate, 10% Glass Filled Cover Panel: Clear Polycarbonate or Glass Filled Polycarbonate

#### Terminals

Pressure Plate: Zinc Plated, Chromated Steel Terminal Screw: Zinc Plated, Chromated Steel Clamp: Nickel Plated Brass Busbar: Tin Plated Bronze Connector Contact: Beryllium Copper, Tin Plated (gold plating available)

#### **Temperature Rating:**

125°C (257°F), UL94VO Housing Shell Color: Black Terminal Cover Color: Tan

#### PROTECTION

KO4700 enclosures have an IP20 rating (finger protected) and meet VBG4 and other European accident prevention requirements.

#### CONSTRUCTION

The KO4700 enclosure series consists of a black housing shell and a tan cover with integral terminals and terminal-to-board connections. They are supplied unassembled. The housing shell has molded printed circuit board guides to save time when inserting printed circuit boards, prevent misconnections and to keep the boards from moving. Integral tabs on the bottom of the shell further help to hold boards in place, eliminating lateral movement. KO4700 housing shells can be potted.

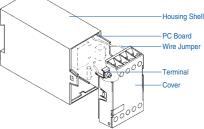


Printed circuit boards can be mounted in three ways:

- Behind the Front Cover
- Horizontally
- Vertically

Depending on the enclosure type, one board can be mounted directly behind the front cover (parallel to the DIN rail).Boards can also be mounted horizontally (parallel to the DIN rail) or vertically (perpendicular to the DIN rail). (Refer to the Ordering Pages for board patterns and location of board guides.)

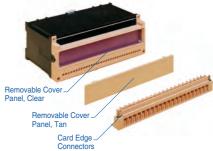
The housing cover snaps onto the housing ( shell. Two keyed tabs lock the cover firmly in place. Removal of the cover is possible for service and repair.



#### **COVER DESIGNS**

Single piece, tan color covers are typically used with the smaller enclosures. They incorporate terminals and connections to the inside of the enclosure. In some of the smaller enclosures, the cover doubles as a plug. A printed circuit board can be mounted directly behind the front cover. This board is ideal for mounting

components used for setting, adjusting and monitoring such as switches, potentiometer, LEDs and LCDs. There is no interferance with any other boards mounted within the enclosure.



Modular covers consist

of a one-piece tan frame with matching flat front panel. Some versions have a front cover panel that is removable and offered in matching tan or clear. The front covers can be custom imprinted or marking plates can be produced and installed behind the transparent front cover panel.

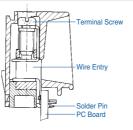
#### **TERMINAL DESIGNS**

Select from Pressure Plate or Box Clamp terminals with wire protectors, and fixed or pluggable terminal-to-board connections. (Please refer to the Ordering Pages). Removable fixed or pluggable terminal strips can be replaced by terminal plugs if not all of the external connections of the standard enclosure are needed. The terminal screws used with both the pressure plate and box clamp designs can be operated with a flat tip or a #1 or #2 Philips type screwdriver.



#### **Pressure Plate Termination**

This type of terminal consists of a pressure plate (captive to the terminal screw) and the terminal bottom. The pressure plate rises automatically when the screw is loosened. One or two wires, of equal or different sizes up to 2.5mm<sup>2</sup> (14 AWG) can be terminated.



The grooved corners of the pressure plate ensure positive retention of wire(s). The flat bottom of the terminal extends to the inside of the enclosure and connects the terminal to the board(s) inside.

#### **Box Clamp Termination**

The box clamp terminal accepts wires up to 4mm<sup>2</sup> (12 AWG). When the terminal screw is tightened, the serrated bottom of the wire protector pushes the wire to be terminated against the serrated busbar. The busbar extends to the inside of the enclosure to provide the terminal-to-board connection.

#### **TERMINAL-TO-BOARD CONNECTIONS**

The KO4700 Series offers fixed and pluggable terminal-to-board connection possibilities. (Please refer to the Ordering Pages on the following pages for your selection.)

#### **Fixed Connections**

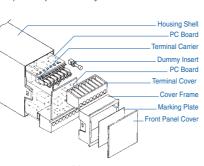
Fixed terminal-to-board connections can be made by Wire Jumper, Fast On tabs, Solder tabs, or Machine Solderable Pins.

Fast On tabs, 2.8mm (.11in.) accept industry standard Fast On

connectors. Use with wire jumpers to connect to board(s).

#### Wire Jumper

connections can also be made by soldering a wire jumper between the center hole of the



Fast On tab and the printed circuit board(s). Solder Tab can be hand soldered to the board.

**Machine Solderable Pins** can be machine soldered to the board in the same step as the other components, saving assembly time. The metal parts of the terminals are supplied as separate strips which snap into the terminal housing after soldering.

#### **Pluggable Connections**

The pluggable terminal strips of the KO4700 series fit across the width of the enclosure and plug directly into the board(s) by using a Card Edge connector. Enclosures equipped with pressure plate terminals also provide Solder Tabs for terminal-to-board connections when mounting an additional board directly behind the front cover. A Wire Jumper can be soldered to these tabs as well.

For better retention, the strips have captive screws at each end

that insert into brass bushings, molded into the housing shell. The pluggable versions are ideal whenever quick connections and replacement of boards and devices is important. They also reduce the danger of misconnected wires and downtime.

#### MOUNTING

The KO4700 Series enclosures are designed to be mounted on standard  $35 \times 7.5$ mm DIN rail but will also fit on the  $35 \times 15$ mm DIN rail. The extra high enclosures should be mounted on the deeper,  $35 \times 15$ mm DIN rail. (Refer to the Ordering Pages on the following pages to determine the correct size rail for the enclosure you select.)

KO4700 series enclosures can also be panel mounted using pullout tabs on the base of the

enclosure. One tab is factory installed on each enclosure. Up to a total of 6 pull-out mounting tabs can be installed (See Accessories)



(Refer to page 49 for mounting instructions.)

#### MARKING

KO4700 enclosures have a flat center area on the cover for marking and mounting of components. Several types have removable front cover panels, which can be marked at a separate location. Imprinted marking plates can be used in conjunction with the transparent, removable cover panel.

#### ACCESSORIES

- Terminal Cover Strips
- Pull-Out Panel Mounting Tabs
- Screws for Mounting Printed Circuit Board
- 35 x 7.5mm DIN Rail
- 35 x 15mm DIN Rail

#### **CUSTOMIZATION**

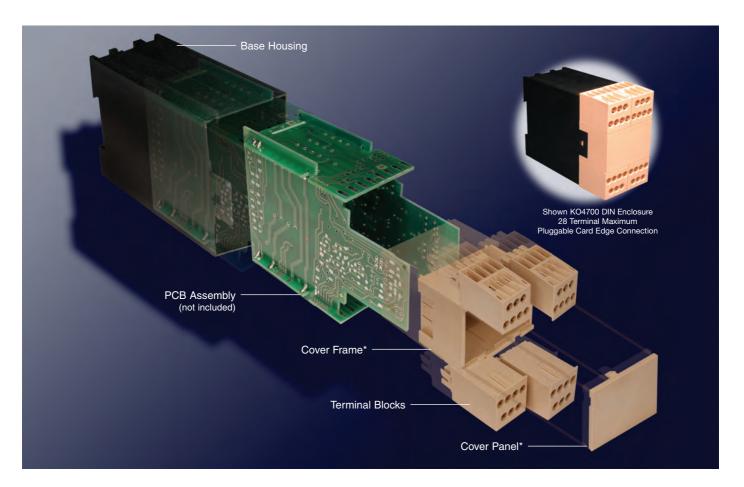
Enclosures can be customized to the exact number of terminals needed. We can punch, drill or cut custom cutouts and holes for potentiometers, switches, LEDs or LDCs. Custom colors and special markings are also available. Please call us for further information.



#### MODULAR ENCLOSURES (pages 32-39)

A group of modular enclosures is available in the KO4700 series. These enclosures can be ordered in a variety of terminal arrangements allowing for many different customized configurations. Terminal sets are available in 3, 4 and 7 pole blocks as well as blank blocks without terminals. High Current terminals are also available on some models. This modular terminal design allows anywhere from 0 to 56 terminals for field wire connections.

The KO4700 modular enclosures have the same design features of the standard series as well as the same materials. The terminals are of the box clamp style. The standard terminals feature pluggable connections while solder connections are used on the high current terminals. Printed circuit board placement is horizontal (parallel to the DIN rail) or vertical (perpendicular to the DIN rail).



#### **Ordering Information**

The modular enclosures are ordered in separate pieces. A complete enclosure consists of a base, cover frame\*, cover panel\* and the appropriate number of terminal blocks. Standard terminal blocks can be ordered as blank blocks with no termination points or with 3, 4, or 7 terminations. High current terminal blocks are available on some models. Theses blocks can also be ordered as blank blocks with no terminations or with 3 terminations. (Please refer to the Ordering Pages on the following pages for a list of how many blocks should be ordered per enclosure).

\* High current versions have one piece center cover section instead of this two piece design.

8 Terminal

Solder

Connection

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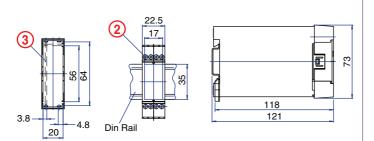
#### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 Clear Panel) Color: Black Housing with Tan Cover Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (2) Vertical (1) Behind cover Mounting: 35mm DIN Rail or optional panel mounting\*

#### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection		
90.201	KO4712	Solid Cover	Machine		
			Solderable Pins		
90.201.1	KO4712	Removable Cover	Machine		
		Panel, Tan	Solderable Pins		
90.201.2	KO4712	Removable Cover	Machine		
		Panel, Clear	Solderable Pins		
ACCESSOR	ACCESSORIES				
Accessories	S	Part Number	Туре		
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M		
*Panel Mount Tab		93.001.2	PMA		

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)

65.4 (2) (3) 67 34.8 4.5 -Ø1 35 16.2 5.4 9.4 1.5 thick 55.6 107.5 85 87 1.5 thick white a space

#### 8 Terminal Solder/Tab

Connection



#### **TECHNICAL INFORMATION**

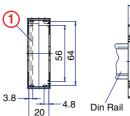
Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 Clear Panel) Color: Black Housing with Tan Cover Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (2) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

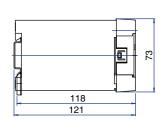
#### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection		
90.202	KO4712B	Solid Cover	Wire		
			Jumper		
90.202.1	KO4712B	Removable Cover	Wire		
		Panel, Tan	Jumper		
90.202.2	KO4712B	Removable Cover	Wire		
		Panel, Clear	Jumper		
ACCESSORIES					
Accesso	ries	Part Number	Туре		
1 Meter DI	N Rail	2511120/1M	TS35x7.5/1M		
*Panel Mount Tab		93.001.2	PMA		

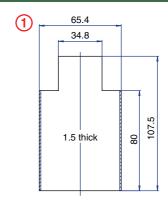
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

35





#### PCB DRAWING (To convert to inches divide by 25.4.)



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**10 Terminal Spring Clamp Solder/Tab Connection** 



#### **TECHNICAL INFORMATION**

**Electrical:** 16A, 300V, 24-14 AWG **Housing Material:** Glass-filled Polycarbonate **Cover Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Black Housing with Tan Cover **Terminal Type:** Spring Cage Clamp **Terminal Screw Size:** 

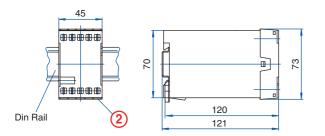
**Recommended Torque:** 

#### Max. PCB's: (2) Vertical Mounting: 35mm DIN Rail

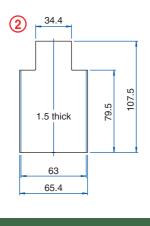
#### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection	
90.215	KO4761	Solid Cover	Wire Jumper/ Fast On	
ACCESSORIES				
Accessories	6	Part Number	Туре	
1 Meter DIN R	lail	2511120/1M	TS35x7.5/1M	

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



**10 Terminal** Solder/Tab Connection



PCB Connection

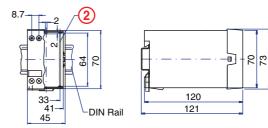
#### **TECHNICAL INFORMATION**

Electrical: 25A, 300V, 22-14 AWG	Terminal Type: Screw / Pressure Plate
Housing Material:	Terminal Screw Size:
Glass-filled Polycarbonate	M3.5
Cover Material:	<b>Recommended Torque:</b>
Glass-filled Polycarbonate	0.8Nm
Temperature Range:	Max. PCB's:
Up to 125°C (257°F)	(2) Vertical
Flammability Rating:	Mounting:
UL94 V-O	35mm DIN Rail
Color:	
Black Housing with Tan Cover	
ORDERING INFORMATION	

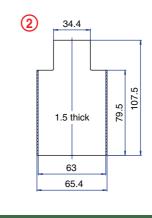
#### C Description Dart Number Tuno

Part Number	туре	Description	PCB Connection
90.230	KO4762	Solid Cover	Wire Jumper/
			Fast On
			Tust on
ACCESSOR	IES		
Accesso	ries	Part Number	Туре
1 Meter DIN	N Rail	2511120/1M	TS35x7.5/1M

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



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**Terminal Type:** 

**Terminal Screw Size:** 

**Recommended Torque:** 

Box Clamp

M3.5

0.8Nm

Max. PCB's:

(2) Vertical Mounting:

35mm DIN Rail

**16 Terminal** Solder Connection



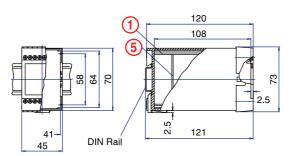
#### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 clear panel) Color: Black Housing with Tan Cover Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (2) Vertical (1) Horizontal Mounting: 35mm DIN Rail

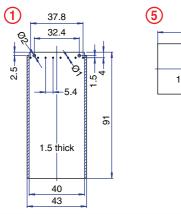
#### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection
90.290	KO4763A	Solid Cover	Machine
			Solderable Pins
90.291	KO4763A	Removable Cover	Machine
		Panel, Tan	Solderable Pins
90.292	KO4763A	Removable Cover	Machine
		Panel, Clear	Solderable Pins
ACCESSOF	RIES		
Accessorie	s	Part Number	Туре
1 Meter DIN I	Rail	2511120/1M	TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)





#### 16 Terminal Solder/Tab

Connection

#### **TECHNICAL INFORMATION**

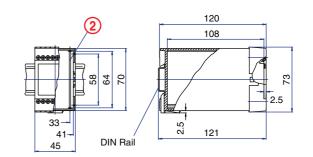
#### Electrical:

16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 clear panel) Color: Black Housing with Tan Cover

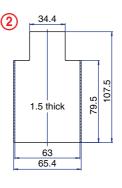
#### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection	
90.300	KO4763B	Solid Cover	Wire	
			Jumper	
90.301	KO4763B	Removable Cover	Wire	
		Panel, Tan	Jumper	
90.302	KO4763B	Removable Cover	Wire	
		Panel, Clear	Jumper	
ACCESSORIES				
Accesso	ries	Part Number	Туре	
1 Meter DI	N Rail	2511120/1M	TS35x7.5/1M	

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



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#### **16 Terminal** Pluggable Connection



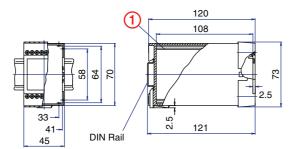
#### **TECHNICAL INFORMATION**

Electrical: 10A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 clear panel) Color: Black Housing with Tan Cover Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (2) Vertical (1) Horizontal Mounting: 35mm DIN Rail

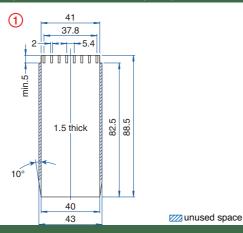
#### ORDERING INFORMATION

Part Number	г Туре	Description	PCB Connection	
90.320	KO4763P	Solid Cover	Card Edge	
90.321	KO4763P	Removable Cover Panel, Tan	Card Edge	
90.322	KO4763P	Removable Cover Panel, Clear	Card Edge	
ACCESSORIES				
Accessorie	es	Part Number	Туре	
1 Meter DIN	Rail	2511120/1M	TS35x7.5/1M	

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



### **20 Terminal**

Pluggable Connection



# TECHNICAL INFORMATION

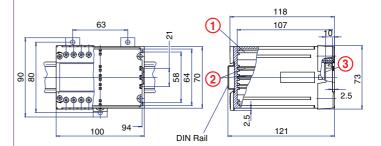
Elootiloun
10A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O (V-2 clear panel)
Color:
Black Housing with Tan Cover

Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (5) Vertical (1) Horizontal behind cover Mounting: 35mm DIN Rail or optional panel mounting\*

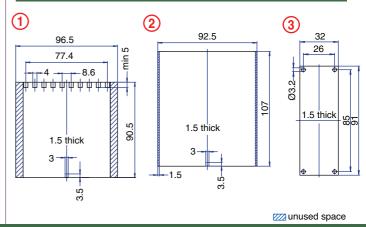
#### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
90.350 H	KO4718P	Solid Cover	Card Edge/
			Wire Jumper
90.351 H	KO4718P	Removable Cover	Card Edge/
		Panel, Tan	Wire Jumper
90.352 H	KO4718P	Removable Cover	Card Edge/
		Panel, Clear	Wire Jumper
ACCESSORIES			
Accessor	ies	Part Number	Туре
1 Meter DIN Rail		2511120/1M	TS35x7.5/1M
*Panel Mount Tab (need 2)		93.001.2	PMA

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



**22 Terminal** 

Solder Connection



#### **TECHNICAL INFORMATION**

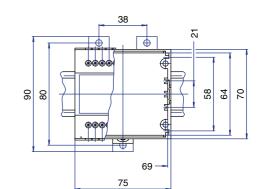
Electrical:
16A, 300V, 22-12 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O (V-2 Clear Panel)
Color:
Black Housing with Tan Cover

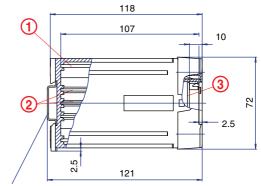
Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (5) Vertical (1) Behind cover Mounting: 35mm DIN Rail or optional panel mounting\*

ORDERING INFORMATION				
Part Number	Туре	Description	PCB Connection	
90.380	KO4713A	Solid Cover	Machine	
			Solderable Pins	
90.381	KO4713A	Removable Cover	Machine	
		Panel, Tan	Solderable Pins	
90.382	KO4713A	Removable Cover	Machine	
		Panel, Clear	Solderable Pins	

ACCESSORIES			
Accessories	Part Number	Туре	
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M	
*Panel Mount Tab (need 2)	93.001.2	PMA	

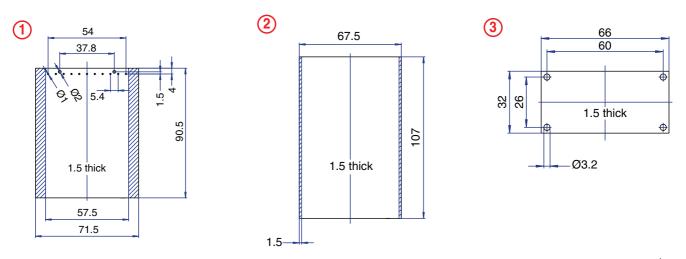
#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)





DIN Rail

#### PCB DRAWING (To convert to inches divide by 25.4.)



winused space

**22 Terminal** 

Pluggable Connection



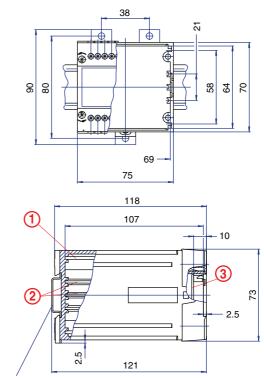
#### **TECHNICAL INFORMATION**

Electrical:	Terminal Type:
10A, 300V, 22-12 AWG	Box Clamp
Housing Material:	Terminal Screw Size:
Glass-filled Polycarbonate	M3.5
Cover Material:	<b>Recommended Torque:</b>
Glass-filled Polycarbonate	0.8Nm
Temperature Range:	Max. PCB's:
Up to 125°C (257°F)	(5) Vertical
Flammability Rating:	(1) Behind cover
UL94 V-O (V-2 clear panel)	Mounting:
Color:	35mm DIN Rail or
Black Housing with Tan Cover	optional panel mounting*

#### ORDERING INFORMATION

Part Number Type	e Description	PCB Connection
90.410 KO471	I3P Solid Cover	Card Edge
90.411 KO471	I3P Removable Cover Panel, Tan	Card Edge
90.412 KO471	I3P Removable Cover Panel, Clear	Card Edge
ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab (nee	ed 2) 93.001.2	PMA

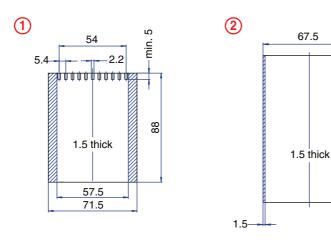
#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

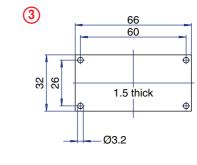


DIN Rail

107

#### PCB DRAWING (To convert to inches divide by 25.4.)





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67.5

**30 Terminal** 

Solder

Connection



#### **TECHNICAL INFORMATION**

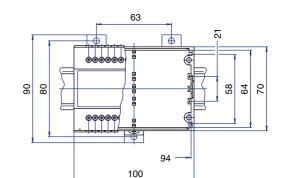
Electrical:
16A, 300V, 22-12 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O (V-2 clear panel)
Color:
Black Housing with Tan Cover

Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (5) Vertical (1) Behind Cover Mounting: 35mm DIN Rail or

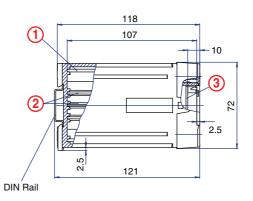
optional panel mounting\*

#### ORDERING INFORMATION

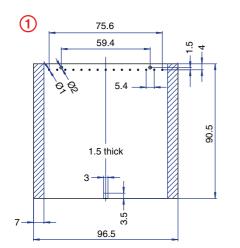
Part Number	Туре	Description	PCB Connection
90.440	KO4717A	Solid Cover	Machine
			Solderable Pins
90.441	KO4717A	Removable Cover	Machine
		Panel, Tan	Solderable Pins
90.442	KO4717A	Removable Cover	Machine
		Panel, Clear	Solderable Pins
ACCESSOR	RIES		
Accessorie	s	Part Number	Туре
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M
*Panel Mount 1	Tab (need 2)	93.001.2	PMA

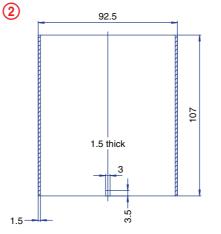


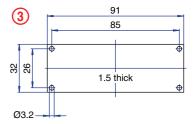
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)







winused space

**30 Terminal** Pluggable Connection



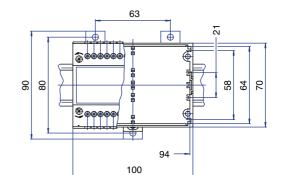
#### **TECHNICAL INFORMATION**

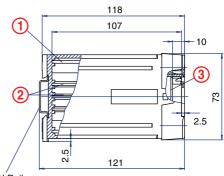
Electrical:	Terminal Type:
10A, 300V, 22-12 AWG	Box Clamp
Housing Material:	Terminal Screw Size:
Glass-filled Polycarbonate	M3.5
Cover Material:	<b>Recommended Torque:</b>
Glass-filled Polycarbonate	0.8Nm
Temperature Range:	Max. PCB's:
Up to 125°C (257°F)	(5) Vertical
Flammability Rating:	(1) Behind Cover
UL94 V-O (V-2 clear panel)	Mounting:
Color:	35mm DIN Rail or
Black Housing with Tan Cover	optional panel mounting*

#### **ORDERING INFORMATION**

Part Number Ty	pe D	escription	PCB Connection
90.470 KO4	717P S	olid Cover	Card Edge
90.471 KO4		ovable Cover Panel, Tan	Card Edge
90.472 KO4		ovable Cover anel, Clear	Card Edge
ACCESSORIES			
Accessories	Pa	art Number	Туре
1 Meter DIN Rai	il 2	511120/1M	TS35x7.5/1M
*Panel Mount Tab (n	leed 2)	93.001.2	PMA

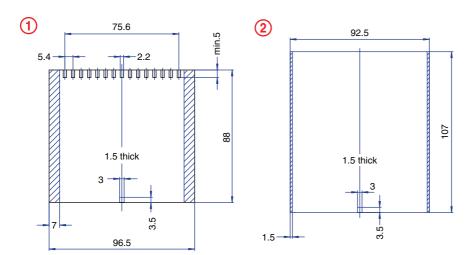
# ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

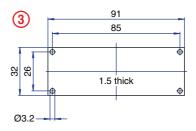




DIN Rail

#### PCB DRAWING (To convert to inches divide by 25.4.)





winused space

**32 Terminal** Pluggable and Solder Connection



#### **TECHNICAL INFORMATION**

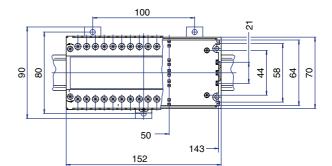
Electrical:	Те
10A, 300V, 22-14 AWG	;
Housing Material:	Те
Glass-filled Polycarbonate	I
Cover Material:	Re
Glass-filled Polycarbonate	(
Temperature Range:	M
Up to 125°C (257°F)	(
Flammability Rating:	
UL94 V-O (V-2 clear panel)	
Color:	M
Black Housing with Tan Cover	;

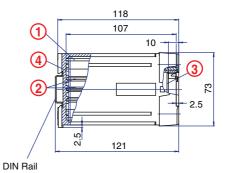
Terminal Type: Screw/ Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (5) Vertical (1) Behind cover (1) Base Mount Mounting: 35mm DIN Rail or optional panel mounting\*

#### **ORDERING INFORMATION**

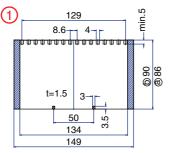
Part Number	<b>V</b> 10 1	Description	PCB Connection
90.500	KO4719P	Solid Cover	Card Edge/
			Wire Jumper
90.501	KO4719P	Removable Cover	Card Edge/
		Panel, Tan	Wire Jumper
90.502	KO4719P	Removable Cover	Card Edge/
		Panel, Clear	Wire Jumper
A005000			
ACCESSOF	(IES		
Accessorie	s	Part Number	Туре
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M
*Panel Mount	Tab (need 3)	93.001.2	PMA

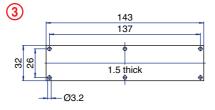
# ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

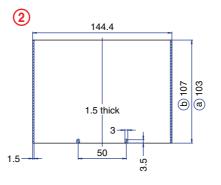


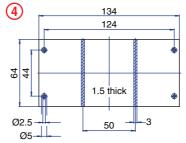


# PCB DRAWING (To convert to inches divide by 25.4.)









a) with base mount PCB
b) without base mount PCB

# **42 Terminal**

Pluggable and Solder Connection

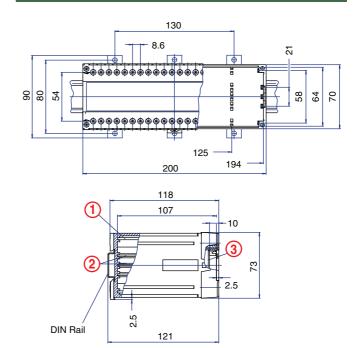


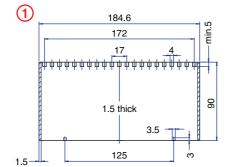
#### **TECHNICAL INFORMATION**

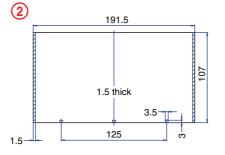
Electrical:	Terminal Type:
10A. 300V. 22-14 AWG	Screw/ Pressure Plate
Housing Material:	Terminal Screw Size:
Ū	
Glass-filled Polycarbonate	M3.5
Cover Material:	Recommended Torque:
Glass-filled Polycarbonate	0.8Nm
Temperature Range:	Max. PCB's:
Up to 125°C (257°F)	(5) Vertical
Flammability Rating:	(1) Behind cover
UL94 V-O (V-2 clear panel)	Mounting:
Color:	35mm DIN Rail or
Black Housing with Tan Cover	optional panel mounting*
ORDERING INFORMATION	

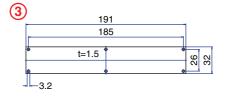
	-	-	
Part Number	Туре	Description	PCB Connection
90.530	KO4720P	Solid Cover	Card Edge/
			Wire Jumper
90.531	KO4720P	Removable Cover	Card Edge/
		Panel, Tan	Wire Jumper
90.532	KO4720P	Removable Cover	Card Edge/
		Panel, Clear	Wire Jumper
ACCESSOR	IFS		
AGGEOGON			
Accesso	ries	Part Number	Туре
1 Meter DI	N Rail	2511120/1M	TS35x7.5/1M
*Panel Mount T	ab (need 3)	93.001.2	PMA

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)









#### 42 Terminal

**Pluggable and Solder Connection** 

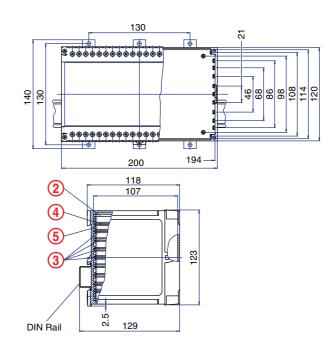


#### **TECHNICAL INFORMATION**

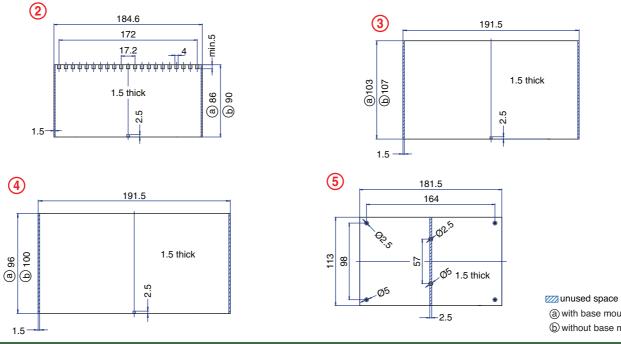
Electrical: 10A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Black Housing with Tan Cover	Terminal Type: Screw/ Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (11) Vertical (1) Base Mount Mounting: 35mm DIN Rail or optional panel mounting*
ORDERING INFORMATION	
	cription PCB Connection
90.560 KO4722SP Solid	d Cover Card Edge/ Wire Jumper

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	CA701/15-S	TS35x15/1M
*Panel Mount Tab (need 3)	93.001.2	PMA

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



(a) with base mount PCB (b) without base mount PCB

#### 50 Terminal

Solder Connection

# -----

**Terminal Type:** 

#### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 Clear Panel) Color: Black Housing with Tan Cover

Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (5) Vertical (1) Behind Cover (1) Base Mount

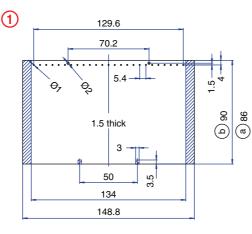
#### Mounting:

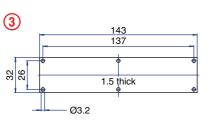
35mm DIN Rail or optional panel mounting\*

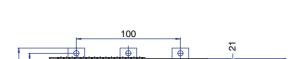
#### ORDERING INFORMATION

Part Number Typ	be	Description	PCB Connection
90.590 KO47	'16A	Solid Cover	Machine Solderable Pins
90.591 KO47	'16A Re	movable Cover Panel, Tan	r Machine Solderable Pins
90.592 KO47		movable Cover Panel, Clear	r Machine Solderable Pins
ACCESSORIES			
Accessories		Part Number	r Type
1 Meter DIN Rail		2511120/1M	TS35x7.5/1M
*Panel Mount Tab (ne	eed 3)	93.001.2	PMA

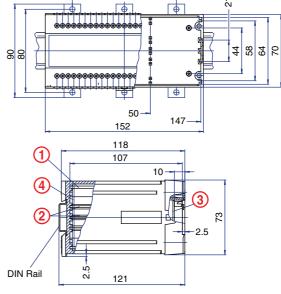
#### PCB DRAWING (To convert to inches divide by 25.4.)

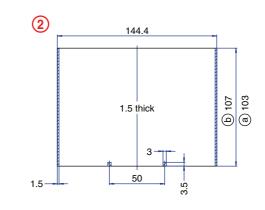


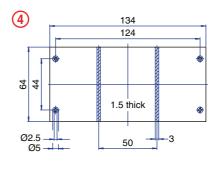




ENCLOSURE DRAWING (To convert to inches divide by 25.4.)







a) with base mount PCB
b) without base mount PCB



# 50 Terminal Pluggable

Connection



#### **TECHNICAL INFORMATION**

Electrical:
10A, 300V, 22-12 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O (V-2 Clear Panel)
Color:
Black Housing with Tan Cover

Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (5) Vertical (1) Behind cover (1) Base Mount Mounting: 35mm DIN Rail or optional panel mounting\*

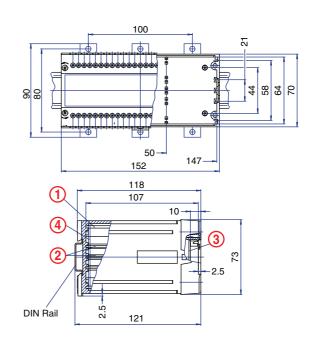
#### ORDERING INFORMATION

(1)

5.4

Part Number	Туре	Description	PCB Connection
90.620	KO4716P	Solid Cover	Card Edge
90.621	KO4716P	Removable Cover Panel, Tan	Card Edge
90.622	KO4716P	Removable Cover Panel, Clear	Card Edge
ACCESSOR	IES		
Accesso	ries	Part Number	Туре
1 Meter DI	N Rail	2511120/1M	TS35x7.5/1M
*Panel Mount 1	ab (need 3)	93.001.2	PMA

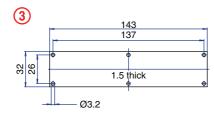
#### PCB DRAWING (To convert to inches divide by 25.4.)

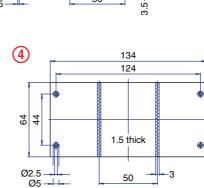


(b) 107 (a) 103

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

#### min.5 2 129.6 144.4 - 2.2 88 84 1.5 thick (a) ٩ 1.5 thick 3 3 50 3.5 50 1.5 134 148.8





a with base mount PCBwithout base mount PCB

#### 66 Terminal Pluggable Connection



#### **TECHNICAL INFORMATION**

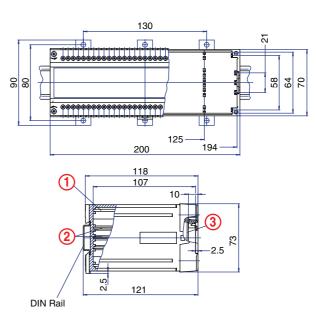
Electrical:	Terminal Type:
10A, 300V, 22-12 AWG	Box Clamp
Housing Material:	Terminal Screw
Glass-filled Polycarbonate	M3.5
Cover Material:	Recommended
Glass-filled Polycarbonate	0.8Nm
Temperature Range:	Max. PCB's:
Up to 125°C (257°F)	(5) Vertical
Flammability Rating:	(1) Behind cove
UL94 V-O (V-2 Clear Pane	I) Mounting:
Color:	35mm DIN Rail
Black Housing with Tan Co	over optional panel n
ORDERING INFORMATI	ON
Part Number Type	Description PCB (
90.680 KO4721P	Solid Cover Ca

ew Size: led Torque: over

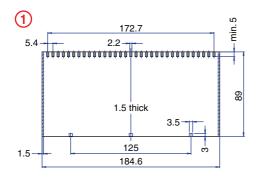
lail or el mounting\*

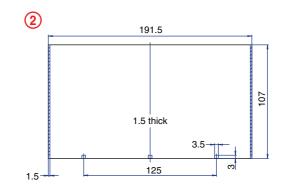
Part Number	Туре	Description	PCB Connection
90.680	KO4721P	Solid Cover	Card Edge
90.681	KO4721P	Removable Cover Panel, Tan	Card Edge
90.682	KO4721P	Removable Cover Panel, Clear	Card Edge
ACCESSOR	IES		
Accesso	ries	Part Number	Туре
1 Meter DI	N Rail	2511120/1M	TS35x7.5/1M
*Panel Mount T	ab (need 3)	93.001.2	PMA

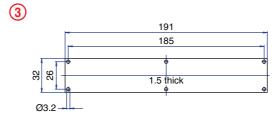
### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)







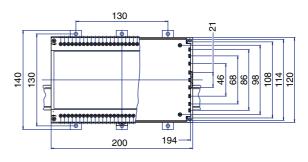
while a space

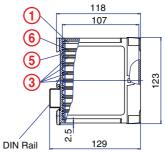
66 Terminal Pluggable Connection

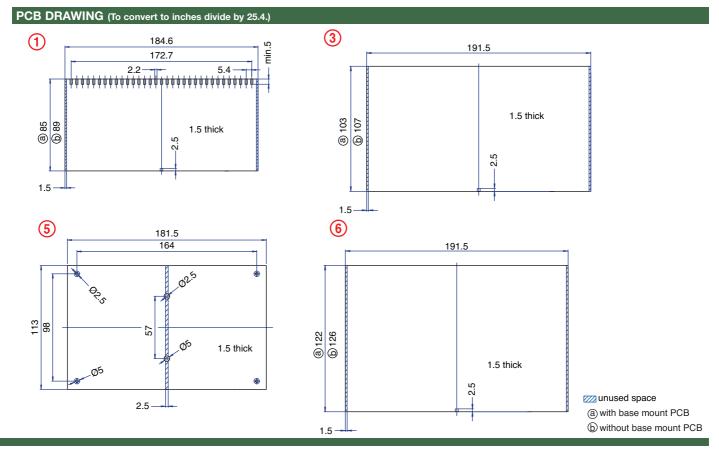
#### **TECHNICAL INFORMATION**

Electrical: 10A, 300V, 22-12 AWG	<b>Terminal</b> Box Cla	
Housing Material:	Terminal	Screw Size:
Glass-filled Polycarbonate Cover Material:		nended Torque:
Glass-filled Polycarbonate	e 0.8Nm	•
Temperature Range:	Max. PC	B's:
Up to 125°C (257°F)	(11) Ver	tical
Flammability Rating:	(1) Base	e Mount
UL94 V-O	Mountin	q:
Color:		DIN Rail or
Black Housing with Tan C	over optional	panel mounting*
ORDERING INFORMAT	ION	
Part Number Type	Description	PCB Connection
90.710 KO4723SP	Solid Cover	Card Edge
ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab (need 3)	93.001.2	PMA

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)







# **84** Terminal

**Pluggable and Solder Connection** 



#### **TECHNICAL INFORMATION**

Electrical: 10A, 300V, 22-14 AWG	Terminal Type: Screw / Pressur
Housing Material:	<b>Terminal Screw</b>
Glass-filled Polycarbonate	M3.5
Cover Material:	Recommended
Glass-filled Polycarbonate	0.8Nm
Temperature Range:	Max. PCB's:
Up to 125°C (257°F)	(11) Vertical
Flammability Rating:	(1) Base Mount
UL94 V-O	Mounting:
Color:	35mm DIN Rail
Black Housing with Tan Cover	optional panel n

Screw / Pressure Plate erminal Screw Size: M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (11) Vertical (1) Base Mount

#### Nounting: 35mm DIN Rail or

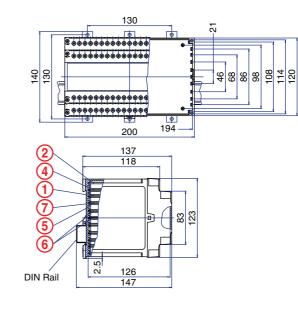
1.5

optional panel mounting\*

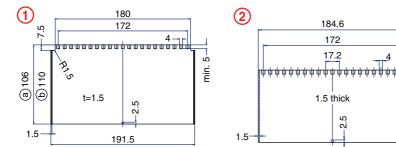
#### **ORDERING INFORMATION**

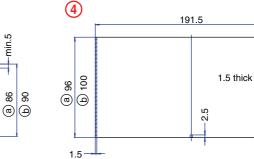
Part Number Type	Description	PCB Connection
90.740 KO4722DP	Solid Cover	Card Edge/ Wire Jumper
ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	CA701/15-S	TS35x15/1M
*Panel Mount Tab (need 3)	93.001.2	PMA

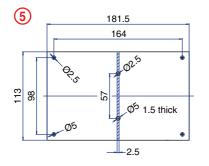
# ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

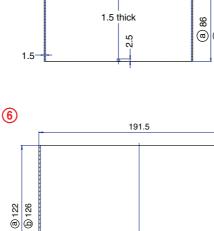


#### PCB DRAWING (To convert to inches divide by 25.4.)





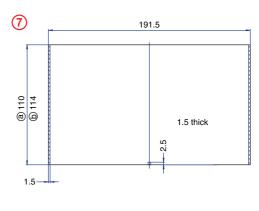




184.6

172

17.2



winused space (a) with base mount PCB (b) without base mount PCB

2.5

1.5 thick

**132 Terminal** 

Pluggable Connection

#### **TECHNICAL INFORMATION**

Electrical:	٦
10A, 300V, 22-12 AWG	
Housing Material:	٦
Glass-filled Polycarbonate	
Cover Material:	F
Glass-filled Polycarbonate	
Temperature Range:	ľ
Up to 125°C (257°F)	
Flammability Rating:	
UL94 V-O	ľ
Color:	
Black Housing with Tan Cover	
ORDERING INFORMATION	

Terminal Type: Box Clamp Terminal Screw Size: M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (11) Vertical (1) Base Mount Mounting:

35mm DIN Rail or optional panel mounting\*

**PCB** Connection

Card Edge

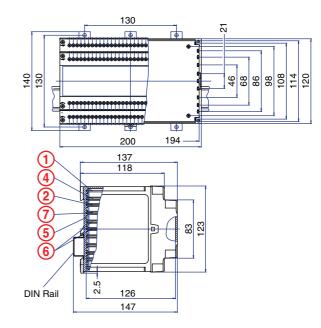
Туре

TS35x15/1M

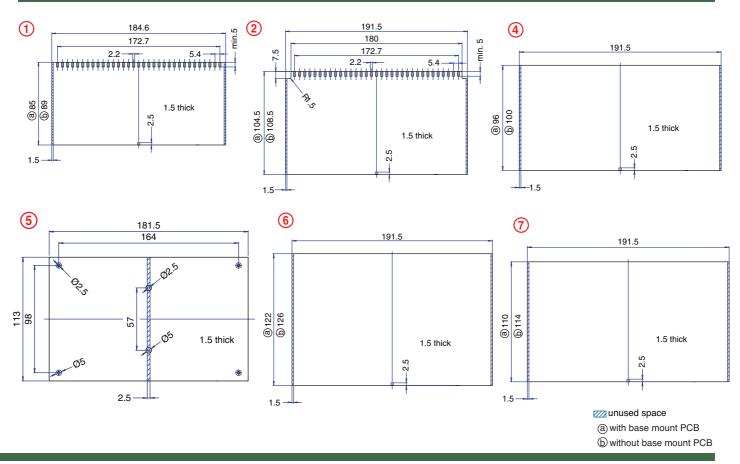
PMA

Part Number Description Туре 90.770 KO4723DP Solid Cover

ACCESSORIES		
Accessories	Part Number	
1 Meter DIN Rail	CA701/15-S	
*Panel Mount Tab (need 3)	93.001.2	



#### PCB DRAWING (To convert to inches divide by 25.4.)



## K04700 Series - Modular

6 Terminal with 6 High Current Terminals Solder Connection



#### **TECHNICAL INFORMATION**

Electrical:	Ter
40A, 300V, 18-8 AWG	В
Housing Material:	Ter
Glass-filled Polycarbonate	N
Cover Material:	Re
Glass-filled Polycarbonate	0
Temperature Range:	Ma
Up to 125°C (257°F)	(2
Flammability Rating:	(2
UL94 V-O	Mo
Color:	3
Black Housing with Tan Cover	0

Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (2) Vertical (2) Horizontal Mounting: 35mm DIN Rail or optional panel mounting\*

#### ORDERING INFORMATION

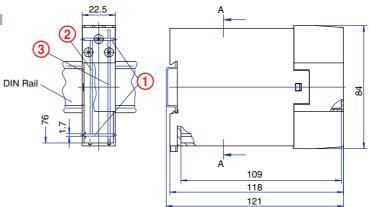
 Part Number
 Type

 90.815
 KO4734

Description Removable High Current Wire Jumper Terminals

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab	93.001.2	PMA

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.) 3 2 (1)77.9 20.8 64.2 29.6 29.6 R1 3 65 107 107 1.5 thick 65 65 1.5 thick 1.5 thick 18 76 winused space

### **14 Terminal**

Maximum

**Pluggable Card Edge** Connection



#### **TECHNICAL INFORMATION**

#### **Electrical:**

see chart for Amperages, 300V, 22-12 AWG **Housing Material:** Glass-filled Polycarbonate **Cover Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 Clear Panel) Color: Black Housing with Tan Cover

**Terminal Type:** Box clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (2) Vertical (2) Horizontal Mounting: 35mm DIN Rail or optional panel mounting\*

#### COMPLETE ENCLOSURE CONSISTS OF

- (1) Base Housing
- (1) Cover Frame
- (1) Cover Panel

A-A

**2**b

**DIN Rai** 

Inner Surface

Outer Surface

15.8

14.8

1.8

28

14.8

ŝ

69.

(2) Terminal or blanking blocks

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

#### ORDERING INFORMATION Part Number Description Туре 90.810 KO4730H **Base Housing** 90.810.1 KO4730F Cover Frame KO4730P 90.810.2 Cover Panel, Tan 90.810.3 KO4730P-C Cover Panel, Clear 90.810.4 KO4730P/S Cover Panel with terminal release slots, Tan 90.810.5 KO4730P-C/S Cover Panel with terminal release slots, Clear KO473xT/3 Terminal Block, 3 terminals 90.803 90.804 KO473xT/4 Terminal Block, 4 terminals Terminal Block, 7 terminals 90.807 KO473xT/7 90.800 KO473xT/B Blanking Block, 0 terminals

#### ACCESSORIES

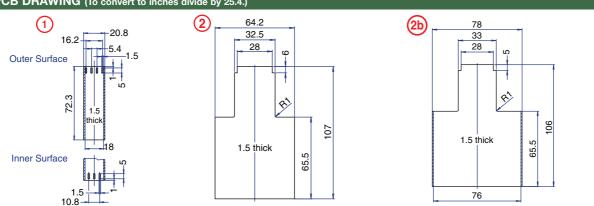
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab	93.001.2	PMA

#### AMPERAGE CHART

Max. Current Carrying Capacity of Terminal Blocks

	<b>3 pole</b>	<b>4 pole</b>	<b>7 pole</b>
Max Amperage of Terminal Blocks	15A	28A	15A top row 28A bottom row
Max Amperage Per Terminal Point	5A	8A	5A top row 8A bottom row

PCB DRAWING (To convert to inches divide by 25.4.)



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winused space

84

A

118

121

**20 Terminal Maximum** 

with 6 High Current Terminals **Pluggable Card Edge Connection/ Solder Connection** 



#### **TECHNICAL INFORMATION**

Electrical:				
see chart for Amperages,				
300V, 22-12 AWG standard				
18-8 AWG high current				
Housing Material:				
Glass-filled Polycarbonate				
Cover Material:				
Glass-filled Polycarbonate				
Temperature Range:				
Up to 125°C (257°F)				
Flammability Rating:				
UL94 V-O (V-2 Clear Panel)				
Color:				
Black Housing with Tan Cover				

#### Box clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (2) Vertical (2) Horizontal Mounting: 35mm DIN Rail or optional panel mounting\*

**Terminal Type:** 

#### COMPLETE ENCLOSURE CONSISTS OF

- (1) Base Housing
- (1) Cover Frame
- (1) Cover Panel

A-A

36

**DIN Rail** 

**Outer Surface** 

69.5

3

4.4

- (2) Terminal or blanking blocks
- (2) High current terminal blocks

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

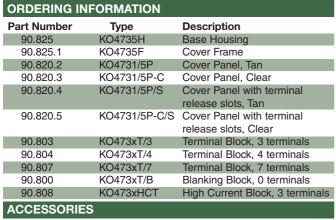
80

(1b

Inner Surface

17

41



70	5011	

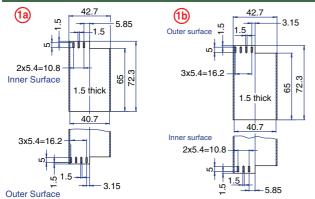
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab	93.001.2	PMA

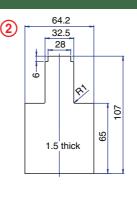
#### AMPERAGE CHART

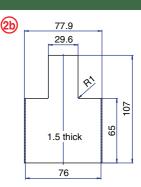
Max. Current Carrying Capacity of Terminal Blocks

	<b>3 pole</b>	4 pole	<b>7 pole</b>	High Current
	000	0000	0000	00
Max Amperage of Terminal Blocks	15A	28A 2	15A top row 28A bottom rov	v 40A
Max Amperage Per Terminal Point	8A	8A	5A top row 8A bottom row	40A

#### PCB DRAWING (To convert to inches divide by 25.4.)







A

108 118

121

84



#### 28 Terminal Maximum Pluggable Card Edge Connection



#### **TECHNICAL INFORMATION**

Electrical: see chart for Amperages, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 Clear Panel) Color: Black Housing with Tan Cover

Terminal Type: Box clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (2) Vertical (2) Vertical (2) Horizontal Mounting: 35mm DIN Rail or optional panel mounting\*

#### COMPLETE ENCLOSURE CONSISTS OF

- (1) Base Housing
- (1) Cover Frame
- (1) Cover Panel

DIN Rail

(1

A-A

36

Outer surface

4.4 69.5

(4) Terminal or blanking blocks

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

17

Inner surface

41

Part Number	Туре	Description		
90.820	KO4731H	Base Housing		
90.820.1	KO4731F	Cover Frame		
90.820.2	KO4731/5P	Cover Panel, Tan		
90.820.3	KO4731/5P-C	Cover Panel, Clear		
90.820.4	KO4731/5P/S	Cover Panel with terminal		
		release slots, Tan		
90.820.5	KO4731/5P-C/S	Cover Panel with terminal		
		release slots, Clear		
90.803	KO473xT/3	Terminal Block, 3 terminals		
90.804	KO473xT/4	Terminal Block, 4 terminals		
90.807	KO473xT/7	Terminal Block, 7 terminals		
90.800	KO473xT/B	Blanking Block, 0 terminals		

#### ACCESSORIES

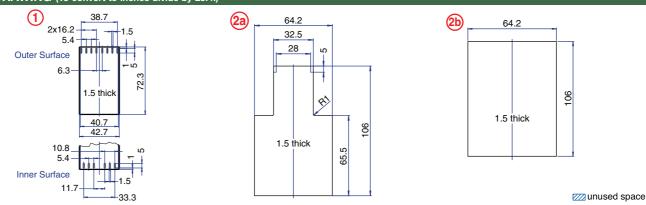
AccessoriesPart NumberType1 Meter DIN Rail2511120/1MTS35x7.5/1M\*Panel Mount Tab93.001.2PMA

#### AMPERAGE CHART

Max. Current Carrying Capacity of Terminal Blocks

	<b>3 pole</b>	<b>4 pole</b>	<b>7 pole</b>
Max Amperage of Terminal Blocks	15A	28A	15A top row 28A bottom row
Max Amperage Per Terminal Point	5A	8A	5A top row 8A bottom row

#### PCB DRAWING (To convert to inches divide by 25.4.)



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94

8

Ā

118

121

# K04700 Series - Modular

**34 Terminal Maximum** with 6 High Current Terminals **Pluggable Card Edge Connection/ Solder Connection** 



### **TECHNICAL INFORMATION**

90.803

90.804

90.807

90.800

90.808

ILOINICAL			
Electrical: see chart for 300V, 22-12 A 18-8 AWG hig Housing Mate Glass-filled Pe Cover Materi Glass-filled Pe Temperature Up to 125°C ( Flammability	AWG standard gh current erial: olycarbonate al: olycarbonate Range: (257°F)	Terminal Type: Box clamp Terminal Screw M3.5 Recommended 0.8Nm Max. PCB's: (3) Vertical (2) Horizontal (1) Parallel with of Mounting: 35mm DIN Rail of optional panel m	
Black Housing	g with Tan Cover		
ORDERING INFORMATION			
Part Number	Туре	Description	
90.830	KO4732/6H	Base Housing	
90.830.6 KO4736F		Center Cover	

KO473xT/3

KO473xT/4

KO473xT/7

KO473xT/B

KO473xHCT

/ Size: **Torque:** cover

#### or

nounting\*

Terminal Block, 3 terminals

Terminal Block, 4 terminals

Terminal Block, 7 terminals

Blanking Block, 0 terminals High Current Block, 3 terminals

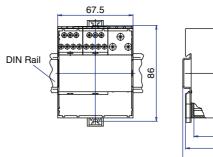
### COMPLETE ENCLOSURE CONSISTS OF

(1) Base Housing

- (1) Center Cover
- (4) Terminal or blanking blocks
- (2) High current terminal blocks

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

Inner surface



A-A

Яb

27 5

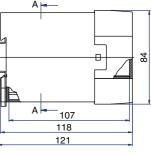
(1)

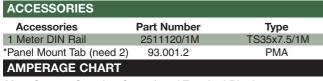
Outer surface 64.6

2

76 67.4

1.8

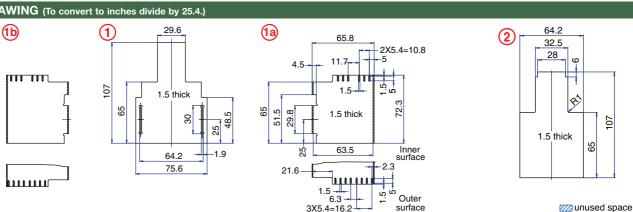




Max. Current Carrying Capacity of Terminal Blocks

	<b>3 pole</b>	4 pole	7 pole	High Current
	000	0000		00
Max Amperage of Terminal Blocks	15A	28A	15A top row 28A bottom row	v 40A
Max Amperage Per Terminal Point	8A	8A	5A top row 8A bottom row	, 40A

### PCB DRAWING (To convert to inches divide by 25.4.)



### K04700 Series - Modular



**40 Terminal Maximum** with 12 High Current Terminals **Pluggable Card Edge Connection/ Solder Connection** 



### **TECHNICAL INFORMATION**

Electrical	
------------	--

see chart for Amperages, 300V, 22-12 AWG standard 18-8 AWG high current **Housing Material:** Glass-filled Polycarbonate **Cover Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O (V-2 Clear Panel) Color: Black Housing with Tan Cover

ORDERING INFORMATION

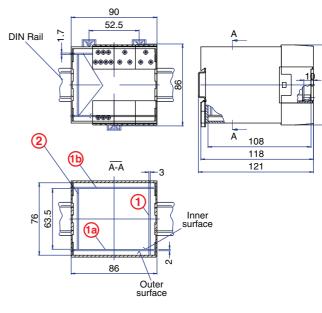
**Terminal Type:** Box clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (4) Vertical (2) Horizontal (1) Parallel with cover Mounting: 35mm DIN Rail or optional panel mounting\*

### COMPLETE ENCLOSURE CONSISTS OF

- (1) Base Housing
- (1) Center Cover
- (4) Terminal or blanking blocks
- (4) High current terminal blocks

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

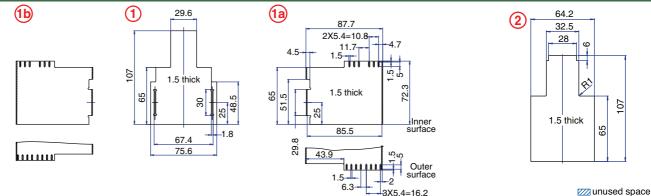
Туре	Description	
KO4737H	Base Housing	
KO4737F	Center Cover	
KO473xT/3	Terminal Block, 3 terminals	
KO473xT/4	Terminal Block, 4 terminals	
KO473xT/7	Terminal Block, 7 terminals	
KO473xT/B	Blanking Block, 0 terminals	
KO473xHCT	High Current Block, 3 terminals	
	<b>Type</b> KO4737H KO4737F KO473xT/3 KO473xT/4 KO473xT/7 KO473xT/B	



ACCESSORIES				
Accessories	Part Number	Туре		
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M		
*Panel Mount Tab (need 2)	93.001.2	PMA		
AMPERAGE CHART				
Max. Current Carrying Capacity of Terminal Blocks				

	<b>3 pole</b> 000	<b>4 pole</b>	<b>7 pole</b>	High Current
Max Amperage of Terminal Blocks	15A	004	15A top row 28A bottom rov	v 40A
Max Amperage Per Terminal Point	8A	8A	5A top row 8A bottom row	, 40A

### PCB DRAWING (To convert to inches divide by 25.4.)



8

### K04700 Series - Modular

# **42** Terminal

Maximum **Pluggable Card Edge** Connection



**Terminal Type:** 

**Terminal Screw Size:** 

**Recommended Torque:** 

Box clamp

M3.5

0.8Nm Max. PCB's: (3) Vertical (2) Horizontal (1) Parallel with cover

**Mounting:** 

35mm DIN Rail or optional panel mounting\*

### **TECHNICAL INFORMATION**

Electrical:
see chart for Amperages,
300V, 22-12 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O (V-2 Clear Panel)
Color:
Black Housing with Tan Cover

### ORDERING INFORMATION

Туре	Description		
KO4732/6H	Base Housing		
KO4732F	Cover Frame		
KO4732P	Cover Panel, Tan		
KO4732P-C	Cover Panel, Clear		
KO4732P/S	Cover Panel with terminal		
	release slots, Tan		
KO4732P-C/S	Cover Panel with terminal		
	release slots, Clear		
KO473xT/3	Terminal Block, 3 terminals		
KO473xT/4	Terminal Block, 4 terminals		
KO473xT/7	Terminal Block, 7 terminals		
KO473xT/B	Blanking Block, 0 terminals		
	Type           KO4732/6H           KO4732F           KO4732P           KO4732P-C           KO4732P/S           KO4732P-C/S           KO4732P-C/S           KO473xT/3           KO473xT/4           KO473xT/7		

### ACCESSORIES

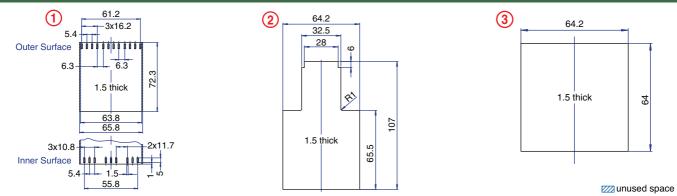
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab (need 2)	93.001.2	PMA

### AMPERAGE CHART

Max. Current Carrying Capacity of Terminal Blocks

	<b>3 pole</b> 000	<b>4 pole</b>	<b>7 pole</b>
Max Amperage of Terminal Blocks	15A	28A	15A top row 28A bottom row
Max Amperage Per Terminal Point	5A	8A	5A top row 8A bottom row

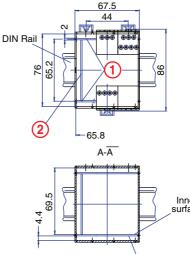
### PCB DRAWING (To convert to inches divide by 25.4.)

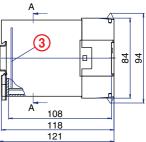


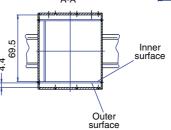
### COMPLETE ENCLOSURE CONSISTS OF

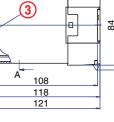
- (1) Base Housing
- (1) Cover Frame
- (1) Cover Panel
- (6) Terminal or blanking blocks

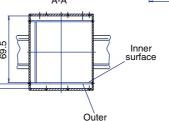
### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

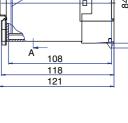


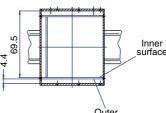














# 56 Terminal

Maximum Pluggable Card Edge Connection



**Terminal Type:** 

**Terminal Screw Size:** 

35mm DIN Rail or optional panel mounting\*

**Recommended Torque:** 

Box clamp

M3.5

0.8Nm Max. PCB's: (4) Vertical (2) Horizontal (1ea.) Parallel with/ behind cover Mounting:

### **TECHNICAL INFORMATION**

Electrical:
see chart for Amperages,
300V, 22-12 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O (V-2 Clear Panel)
Color:
Black Housing with Tan Cover

### ORDERING INFORMATION

	-	<b>B</b> :
Part Number	Туре	Description
90.840	KO4733H	Base Housing
90.840.1	KO4733F	Cover Frame
90.840.2	KO4733P	Cover Panel, Tan
90.840.3	KO4733P-C	Cover Panel, Clear
90.840.4	KO4733P/S	Cover Panel with terminal
		release slots, Tan
90.840.5	KO4733P-C/S	Cover Panel with terminal
		release slots, Clear
90.803	KO473xT/3	Terminal Block, 3 terminals
90.804	KO473xT/4	Terminal Block, 4 terminals
90.807	KO473xT/7	Terminal Block, 7 terminals
90.800	KO473xT/B	Blanking Block, 0 terminals

### ACCESSORIES

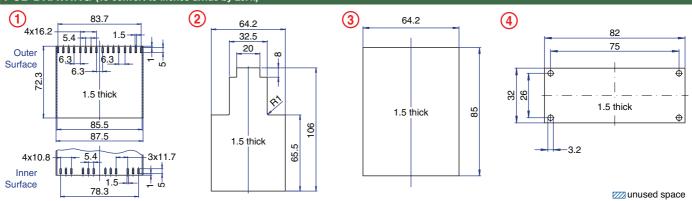
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab (need 2)	93.001.2	PMA

### AMPERAGE CHART

Max. Current Carrying Capacity of Terminal Blocks

	<b>3 pole</b> 000	<b>4 pole</b>	<b>7 pole</b> 000
Max Amperage of Terminal Blocks	15A	28A	15A top row 28A bottom row
Max Amperage Per Terminal Point	5A	8A	5A top row 8A bottom row

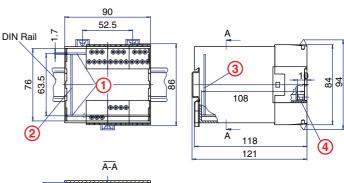
### PCB DRAWING (To convert to inches divide by 25.4.)

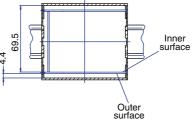


### COMPLETE ENCLOSURE CONSISTS OF

- (1) Base Housing
- (1) Cover Frame
- (1) Cover Panel
- (8) Terminal or blanking blocks

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)







The K70 series enclosures are small to medium in size and offer cost effective solutions for many applications.

They can accommodate 8 to 32 terminals for field wire connections. Pressure plate terminals are standard with both the fixed and pluggable versions.

### MATERIALS

### Housing

Housing Shell: Polycarbonate, 10% Glass-filled Housing Cover: Polycarbonate, 10% Glass-filled *Terminals* Pressure Plate: Chromated Steel

Terminal Screw: Chromated Steel Connector Contact: Tin Plated Bronze

Temperature Rating: 125°C (257°F) UL94VO Standard Color: Light Gray

### PROTECTION

K7O enclosures have an IP10 rating (hand protected). By using optional terminal covers the protection rating can be increased to IP20 (finger protected). VBG4 and other European accident prevention requirements are met.

### CONSTRUCTION

The K70 enclosures are supplied as unassembled kits. Each kit consists of a housing shell and a snap-on cover, complete with integral terminals and terminal-to-board connection provisions. Integral printed circuit board guides are molded into the housing shell to save time when inserting boards, to prevent misconnections and to keep the boards in place. Integral tabs on the bottom of the shell further help to hold the boards in place and eliminate lateral movement and warpage. Printed circuit boards can be mounted in three ways:

- Vertically
- Horizontally
- Behind the Front Cover

Boards can be placed vertically (perpendicular to the DIN rail) and/or horizontally (parallel with the DIN rail). Enclosures with plug-in covers can accept an additional board mounted directly behind the front cover. This board is ideal for mounting indicating devices such as LEDs, LCDs for monitoring, switches and potentiometers for setting and adjusting purposes. The housing cover snaps onto the housing shell. Two tabs lock the cover firmly in place. Removal of the cover is possible for service and repair. Potting is possible.

The K70 housing covers have external and internal barriers between terminals to increase creepage distance and to help prevent accidental touching of live potentials that may be present. Optional terminal covers that decrease the size of the opening are available as accessories.

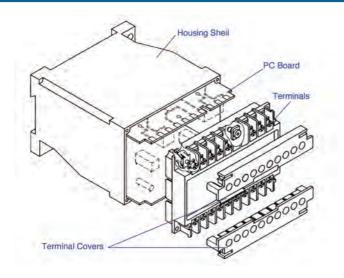


### TERMINALS

Pressure Plate terminals with either fixed or pluggable terminalto-board connections are offered in the K70 enclosures. The pressure plate, which is captive to the terminal screw, automatically rises when the screw is loosened. One or two wires of equal or different sizes up to 2.5mm<sup>2</sup> (14 AWG) can be terminated in each terminal. The grooved corners of the pressure plate ensure positive wire retention. The flat bottom of the terminal extends to the inside of the enclosure and provides the terminal-to-board connection. The terminal screws can be turned by a flat tip or a #2 Phillips screwdriver.

Upon request, terminals can be loaded in selected positions only.





### **TERMINAL-TO-BOARD CONNECTIONS**

The K70 series offers fixed and pluggable terminal-to-board connection possibilities.

### **Fixed Connections**

Fixed terminal-to-board connections can be made by Wire Jumper, Fast On tabs or Machine Solderable Pins (K7022.5C only).

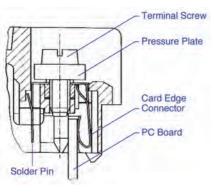
*Fast On* tabs, (2.8 x 0.8 mm) accept industry standard Fast On connectors crimped onto wire jumpers.

*Wire Jumper* connections can also be made by soldering a wire jumper between the center holes of the Fast On tab and the printed circuit board(s).

*Machine Solderable Pins* (offered only with type K7022.5C) can be removed from the enclosure and machine soldered to the board in the same step as other components, saving assembly time.

### **Pluggable Connections**

Pluggable terminal-to-board connections are made by using *Card Edge* connectors. They are an integral part of the covers



of K7075P, K70100P and K70150P and plug directly onto the board(s). *Solder Pins* are also provided in these enclosures for terminal-to-board connections when mounting an additional board directly behind the front cover. A *Wire Jumper* can be soldered to these pins as well. For better retention, the plug-in type covers have captive screws at the corners that insert into brass bushings, molded into the housing shell. The pluggable versions are ideal whenever quick connections and replacement are important. They also reduce the danger of misconnected wires and downtime.

### MOUNTING

The K70 Enclosures mount easily by snapping onto standard 35mm DIN Rail. Many can also be panel mounted using corner mounting holes which accept two M4 or M5 (#6 or #10) screws. These mounting holes are molded into two corners of the housing shell base and do not increase the height or width of the enclosure, thus insuring a compact, high density arrangement when multiple enclosures are installed adjacent to each other. Enclosure types K7022.5A, K7022.5B and K7022.5C have two integral pull-out tabs on the base of the enclosure for panel mounting. (Refer to Enclosure Mounting Procedures on page 49.)



#### MARKING

The K70 enclosures have an area on the front of the cover for marking and mounting of components such as switches, potentiometers, LEDs or LCD indicators. Custom imprinted plates can be inserted as well, allowing imprinting of plates separate from the enclosure, reducing cost and delays.

### ACCESSORIES

- 35 x 7.5 mm DIN Rail
- Terminal Covers
- Pull-Out Panel Mounting Tabs.

### **CUSTOMIZATION**

Enclosures can be customized with cutouts and holes for potentiometers, switches, LEDs, LCDs and other devices. Using state of the art machining, we can punch, drill or cut to your most exacting specifications. Custom colors and special markings are also available. Please let us know what your requirements are.



### 8 Terminal Solder/Tab Connection

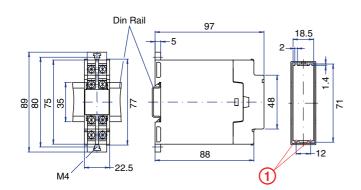


### **TECHNICAL INFORMATION**

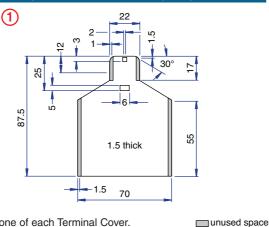
Electrical: 25A, 300V, 24-14 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Pressure Plate Terminal Screw Size: M2.5 Recommended Torque: 0.8Nm PCB Locations: (2) Vertical Mounting: 35mm DIN Rail or panel mount

### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
90.001	K7022.5A	Double Level	Wire Jumper/
		Terminals	Fast On
ACCESSOF	RIES		
Accessorie	S	Part Number	Туре
DIN Rail		2511120/1M	TS35x7.5/1M
Terminal Cove	ers* (	90.001.1/90.001.2	K7022.5A/TC1,TC2
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)			



### PCB DRAWING (To convert to inches divide by 25.4.)



\* Note: Need one of each Terminal Cover.

**10 Terminal** Solder/Tab Connection



### **TECHNICAL INFORMATION**

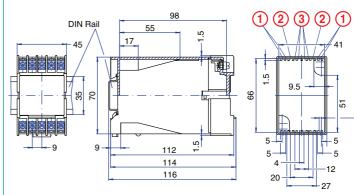
Electrical:
25A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O
Color:
Light Gray

Terminal Type: Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (10) Vertical Mounting: 35mm DIN Rail or panel mount

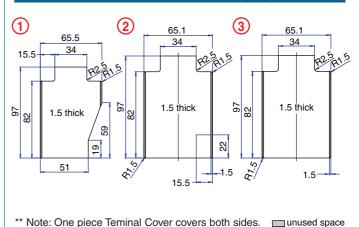
### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
90.010	K7045C	Single Level	Wire Jumper/
		Terminals	Fast On
ACCESSOR	IES		
Accessories	6	Part Number	Туре
DIN Rail		2511120/1M	TS35x7.5/1M
Terminal Cove	r**	90.010.1	K7045C/TC1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



# <u>Altech</u>

**12 Terminal** Solder/Tab Connection

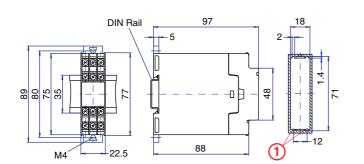


### **TECHNICAL INFORMATION**

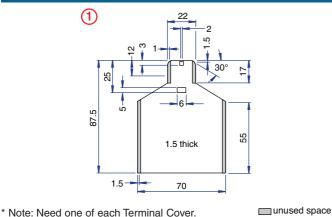
Electrical: 20A, 300V, 24-14 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Pressure Plate Terminal Screw Size: M2.5 Recommended Torque: 0.8Nm PCB Locations: (2) Vertical Mounting: 35mm DIN Rail or panel mount

### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection
90.020	K7022.5B	Double Level	Wire Jumper/
		Terminals	Fast On
ACCESSOF	RIES		
Accessorie	s	Part Number	Туре
DIN Rail		2511120/1M	TS35x7.5/1M
Terminal Cove	rs*	90.020.1/90.020.2	K7022.5BTC1/TC2
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)			



### PCB DRAWING (To convert to inches divide by 25.4.)



**12 Terminal** Solder Connection



### **TECHNICAL INFORMATION**

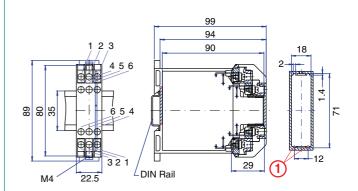
Electrical:
20A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O
Color:
Light Gray

Terminal Type: Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (2) Vertical Mounting: 35mm DIN Rail or panel mount

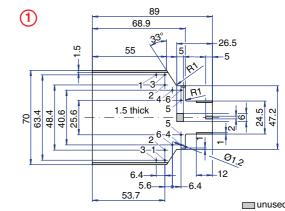
### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection
90.030	K7022.5C	Shrouded Double	Wire Jumper/
		Level Terminals	Machine Solderable Pins
ACCESSOF	RIES		
Accessorie	S	Part Number	Туре
DIN Rail		2511120/1M	TS35x7.5/1M

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



unused space

### **12 Terminal** Solder/Tab Connection



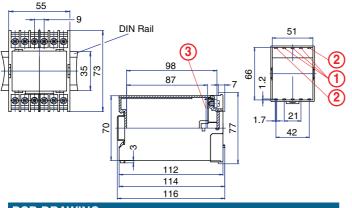
### **TECHNICAL INFORMATION**

Electrical: 25A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (5) Vertical (1) Behind Cover Mounting: 35mm DIN Rail

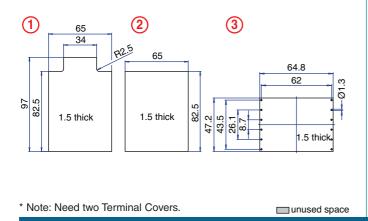
### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
90.040	K7055	Single Level Terminals	Wire Jumper/ Fast On
ACCESSOR	IES		
Accessories	6	Part Number	Туре
DIN Rail		2511120/1M	TS35x7.5/1M
Terminal Cove	rs*	90.040.1	K7055/TC1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



16 Terminal Pluggable Connection TECHNICAL INFORMATION

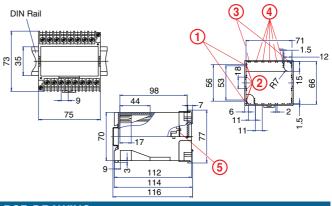
Electrical:
10A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O
Color:
Light Gray

Terminal Type: Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (7) Vertical (6) Horizontal (1) Behind Cover Mounting: 35mm DIN Rail or panel mount

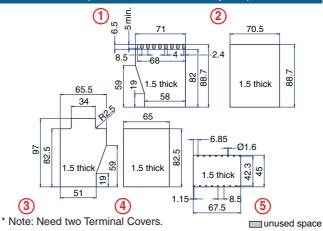
### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection	
90.050	K7075P	Single Level Terminals	Wire Jumper/ Solder Pin/ Card Edge	
ACCESSO	RIES			
Accessorie	es	Part Number	Туре	
DIN Rail		2511120/1M	TS35x7.5/1M	
Terminal Cov	/er*	90.050.1	K7075P/TC1	

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



# Altech

### **16 Terminal**

Pluggable Connection (DIN Rail Mount Only)



### **TECHNICAL INFORMATION**

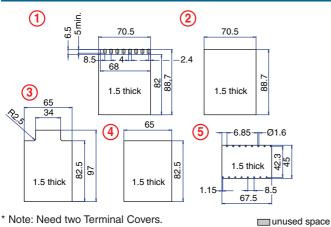
Electrical: 10A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (7) Vertical (6) Horizontal (1) Behind Cover Mounting: 35mm DIN Rail

### **ORDERING INFORMATION**

Part Number Ty	pe Description	PCB Connection
90.050.5 K70	75P Single Level	Wire Jumper/
	Terminals	Solder Tab/ Card Edge
ACCESSORIES	3	
Accessories	Part Number	Туре
DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Covers*	90.050.1	K7075P/TC1
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)		

(4) 13 73 33 53 18 99 98 44 9 6 75 1 2 2 DIN Rail \_ Q 112 (5) 114 116

### PCB DRAWING (To convert to inches divide by 25.4.)



20 Terminal Solder/Tab Connection



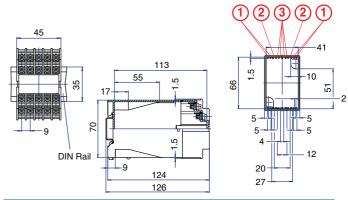
### **TECHNICAL INFORMATION**

Electrical:
25A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Cover Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O
Color:
Light Gray

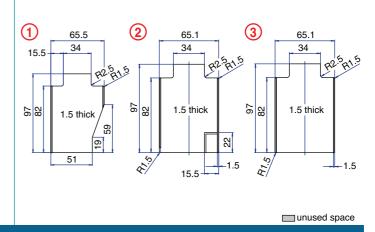
Terminal Type: Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (10) Vertical Mounting: 35mm DIN Rail or panel mount

#### ORDERING INFORMATION Part Number Description PCB Connection Type 90.060 K7045D1 Double Level Wire Jumper/ Terminals Fast On ACCESSORIES Part Number Accessories Туре **DIN Rail** 2511120/1M TS35x7.5/1M

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)



### **20 Terminal Solder/Tab Connection**



### **TECHNICAL INFORMATION**

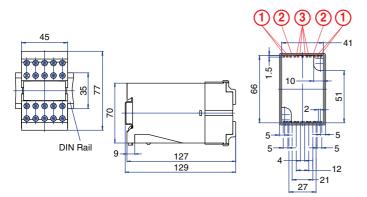
**Electrical:** 25A, 300V, 22-14 AWG **Housing Material:** Glass-filled Polycarbonate **Cover Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

**Terminal Type: Pressure Plate Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm **PCB Locations:** (10) Vertical Mounting: 35mm DIN Rail or panel mount

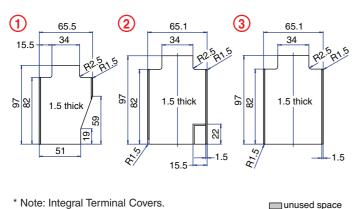
### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection		
90.070	K7045D2	Shrouded Double	Wire Jumper/		
		Level Terminals	Fast On		
ACCESSOF	RIES				
Accessorie	s	Part Number	Туре		
DIN Rail		2511120/1M	TS35x7.5/1M		
Terminal Cove	ers*				

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



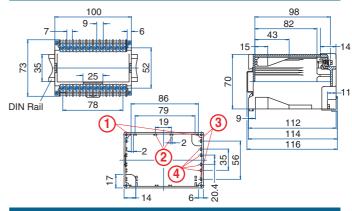
**20 Terminal Solder/Tab Connection TECHNICAL INFORMATION** 

**Terminal Type:** Pressure Plate **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm **PCB Locations:** (4) Vertical (6) Horizontal Mounting: 35mm DIN Rail or panel mount

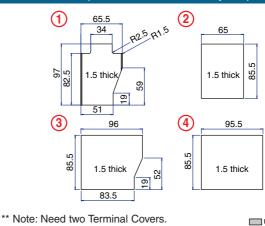
### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
90.080	K70100A	Single Level	Wire Jumper/
		Terminals	Fast On
ACCESSOR	IES		
Accessories	6	Part Number	Туре
DIN Rail		2511120/1M	TS35x7.5/1M
Terminal Cove	r**	90.080.1	K70100/TC1

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)



unused space

# <u>Altech</u>

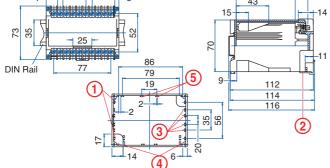


### **TECHNICAL INFORMATION**

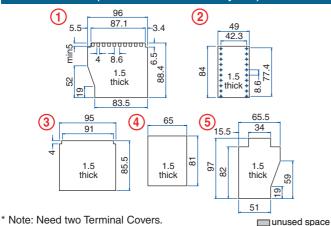
Electrical: 10A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Cover Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations (4) Vertical (6) Horizontal (1) Behind Cover Mounting: 35mm DIN Rail or panel mount

### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection
90.090	K70100P	Single Level	Wire Jumper/
		Terminals	Solder Pin/ Card Edge
ACCESSOF	RIES		
Accessorie	s	Part Number	Туре
DIN Rail		2511120/1M	TS35x7.5/1M
Terminal Cove	ers*	90.080.1	K70100/TC1
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)			
	100		98
7	9	6	43



### PCB DRAWING (To convert to inches divide by 25.4.)



32 Terminal Pluggable Connection

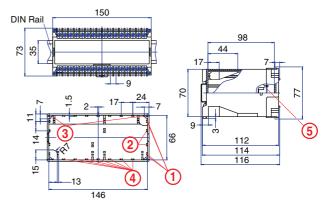
### **TECHNICAL INFORMATION**

Terminal Type: Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations (9) Vertical (6) Horizontal (1) Behind Cover Mounting: 35mm DIN Rail or panel mount

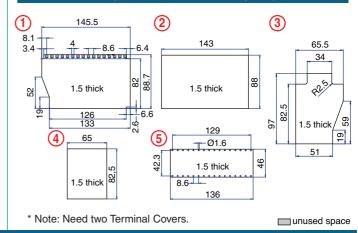
### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection
90.100	K70150P	Single Level	Wire Jumper/
		Terminals	Solder Pin/ Card Edge
ACCESSORIES			
Accessorie	S	Part Number	Туре
DIN Rail		2511120/1M	TS35x7.5/1M
Terminal Cov	er*	90.100.1	K70150P/TC1
ENCLOSUE	ENCLOSUBE DRAWING (To a substate in the divide by 05.4)		





### PCB DRAWING (To convert to inches divide by 25.4.)





Versatile, compact enclosures are ideal for applications with space constraints and for mounting within large international style enclosures with 45mm (1.77 in.) cutouts, such as Altech's EK and AK series nonmetallic enclosures. Small to medium in size, KU4000 enclosures offer 8 to 64 terminals for field wire connections. Pressure plate or spring cage terminals are standard. The KU4000 series are equipped with double level terminals which provide a maximum number of external connections in a minimal amount of space. Standard enclosures are supplied as kits, containing the base, cover and the maximum number of terminals.

### MATERIALS

### Housing

Housing Shell: Polycarbonate, 10% Glass Filled Base: Polycarbonate, 10% Glass Filled

### Terminals

Terminal Pins: Tinned Steel Pressure Plate: Chromated Steel Terminal Screws: Chromated Steel Spring Clamps: Stainless Steel

**Temperature Rating:** 110°C (230°F) UL94VO Standard Color: Light Gray

#### PROTECTION

KU4000 enclosures have an IP20 rating (finger protected) and meet VBG4 and other European accident prevention requirements.

### **CONSTRUCTION**

The KU4000 series housings are supplied as a unassembled kits. Each kit consists of a flat base, a housing cover and 8, 16, 24, 32, 48 or 64 terminals. Double level terminals keep the enclosure size to a

minimum, and yet, due to the innovative housing design, relatively large components can be mounted inside.

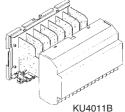
The terminals are machine solderable and have straight or right angle pins, depending on enclosure type (Type C has straight pins, Type B has right angle pins). We can also supply enclosures with fewer than the maximum number of terminals, please contact us with your requirements.

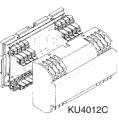
The KU4000 series are available in five widths, and are supplied with terminals in three standard positions:

- Terminals on top and bottom
- Terminals on one side only

• Terminals at both ends, the center area has no terminals.

Cover plugs are available as accessories and can be plugged into unused screw holes and wire entries. Plugs are offered as sets, consisting of one screw-hole cover and one wire





entry cover (Refer to Accessories in the Ordering Pages).

Integral printed circuit board guides are molded into the housing cover to save time when inserting boards. They also prevent misconnections and keep the boards from moving.

Printed circuit boards can be mounted in three ways:

- Horizontally, parallel with the base
- Vertically, perpendicular to the base
- Vertically, parallel with the DIN rail

One large board can be mounted against the base of the enclosure (parallel with the base) using terminals with straight solder pins. Boards can also be mounted vertically (perpendicular to the base) by using terminals with right angle solder pins, or vertically (parallel with the DIN rail) by using a wire jumper connection.

### (Refer to the Ordering Pages).

The face of the cover is 45mm (1.77 in.) high, and can be mounted into standard DIN distribution systems which have 45mm cutouts like Altechs EK and AK series of industrial enclosures. Mount the KU4000 enclosures together with circuit breakers and other DIN rail



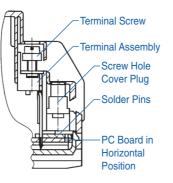
EK Series Industrial Enclosure

mount devices which also meet the 45mm standard. Removal of the housing cover is possible for service and repair after disconnecting the wires. KU4000 covers cannot be potted without taking special steps.

# <u>Altech</u>

### TERMINALS

Pressure plate terminals are standard for the KU4000 enclosure and ensure a vibration proof connection. The pressure plate, which is captive to the terminal screw, automatically rises when the screw is loosened. One or two wires of equal or different sizes up to 2.5mm<sup>2</sup> (14 AWG) can be terminated in each terminal. The grooved corners of the



pressure plate ensure positive retention of the wires. The flat bottom of the terminal extends to the inside of the enclosure and provides the terminal-to-board connection. The terminal screws can be turned by a flat tip or a #2 Pozidriv screwdriver.

The KU4000 series is also available with spring cage terminals. The terminal is opened by appling pressure with a screwdriver to open the clamp. Once the wire is inserted, the screwdriver is removed, creating a vibration proof connection to the wire.

### **TERMINAL-TO-BOARD CONNECTIONS**

The KU4000 series offers several fixed terminal-to-board connection possibilities. (Refer to the Ordering Pages for connection types.)

*Wire Jumper* connections can be made by soldering a wire jumper between the center hole of the right angle solder pins and the printed circuit board(s). Upon soldering, the board is installed into the enclosure complete with terminals and other components.

All KU4000 terminals have *Machine Solderable Pins*, which can be machine soldered to the board(s) in the same step as the other components, saving assembly time.

### MOUNTING

The KU4000 enclosures snap onto standard 35mm DIN rail or can be panel mounted. Mount one or several enclosures together, or mix them with other DIN rail mounted devices such as terminal blocks, circuit breakers, etc. The choice is yours.

### MARKING

The KU4000 series have large marking areas on the front of the cover.

### ACCESSORIES

- Cover Plugs for Screw Hole and Wire Entries
- Screws for Mounting Printed Circuit Board
- Pull-Out Panel Mounting Tabs
- 35mm DIN Rail

### **CUSTOMIZATION**

We can supply the KU4000, series enclosure kits with the exact number of terminals to meet your requirements. Enclosures can also be customized with cutouts and holes. Custom colors and special markings are also available.



### **Enclosure Mounting Procedures**

#### **DIN Rail Mounting**

The top of the enclosure base has notches molded onto the sides. The bottom of the base has one spring-loaded tab that is factory installed into a molded guide for DIN rail mounting.

When mounting, tilt the bottom of the enclosure slightly away from the rail until the notches grab onto the top flange of the DIN rail. Push the bottom of the enclosure forward towards the DIN rail. The spring-loaded tab will snap onto the bottom of the rail and hold the enclosure firmly in place.



To remove the enclosure from the DIN rail, insert a screwdriver into the exposed slot in the tab and pull the tab down. Pull enclosure forward and remove from the rail.

#### **Panel Mounting**

To mount enclosures on a panel or any flat surface, at least one tab must be in place on the top and on the bottom of the enclosure base in the panel mount position. Standard enclosures are supplied with one tab on the bottom for DIN rail mounting.

Install one or more additional tabs (see Accessories in the Ordering Pages) into molded tab guides on the back of the enclosure base. Move the pre-installed bottom tab from the DIN rail position to the panel mount position.

To move the tab, insert a screwdriver under the spring pin, lift it and pull the tab forward until it extends approximately 6mm(.25 in.) from the enclosure. Release pin and lock the tab in the panel mount position.

We can supply the enclosures already set up for panel mounting if desired. *(Please specify when ordering)*.

### 8 Terminal Vertical PCB Screw Clamp



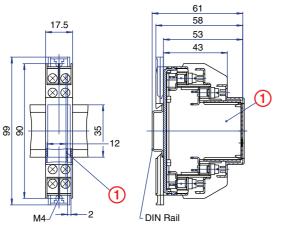
### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (1) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

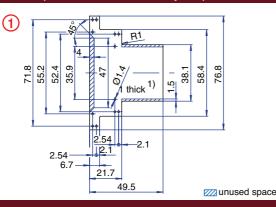
### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection	
91.201	KU4001B	Right Angle Pi	ns Machine Solder/ Wire Jumper	
ACCESSOR	IES			
Accessories	6	Part Number	Туре	
1 Meter DIN R	lail	2511120/1M	TS35x7.5/1M	
Screw-hole ar Wire-Entry Cov		91.201.1	SHPC	
*Panel Mount T		93.001.5	PMA/KU	

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)





### **TECHNICAL INFORMATION**

8 Terminal

**Horizontal PCB** 

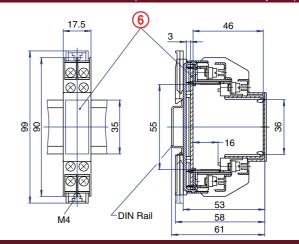
**Screw Clamp** 

Electrical:
16A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O
Color:
Light Gray

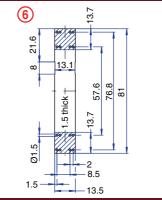
Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (1) Horizontal Mounting: 35mm DIN Rail or optional panel mounting\*

# ORDERING INFORMATION Part Number Type Description PCB Connection 91.202 KU4001C Straight Pins Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Screw-hole and	91.201.1	SHPC
Wire-Entry Cover Plug S	et	
*Panel Mount Tab	93.001.5	PMA/KU
ENCLOSURE DRAW	ING (To convert to in	obos divido by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)

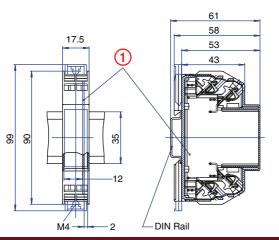


winused space

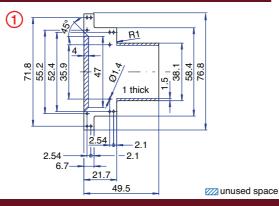
# <u>Altech</u>

<b>8 Terminal</b> Vertical PCB Spring Clamp		17	<b>8 Terminal</b> Horizontal PCB Spring Clamp
<b>TECHNICAL INFORM</b>	ATION		<b>TECHNICAL</b>
Electrical: 10A, 300V, 26-14 AWG Housing Material: Glass-filled Polycarbona Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray	Terminal ate – Recomm – Max. PCI (1) Vertic Mounting 35mm D	age Clamp Screw Size: ended Torque: B's: al	Electrical: 10A, 300V, 26 Housing Mate Glass-filled Po Temperature Up to 125°C ( Flammability UL94 V-O Color: Light Gray
ORDERING INFORMA	TION		ORDERING IN
Part NumberType91.501KU4037B	Description Right Angle Pins	PCB Connection Machine Solder/ Wire Jumper	Part Number 91.502 k
ACCESSORIES			ACCESSORIE
Accessories 1 Meter DIN Rail *Panel Mount Tab	Part Number 2511120/1M 93.001.5	<b>Type</b> TS35x7.5/1M PMA/KU	Accessories 1 Meter DIN Rai *Panel Mount Tab

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)



B

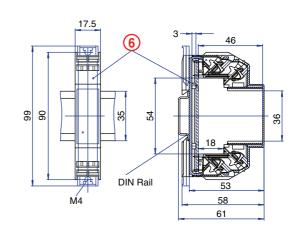


<b>FECHNICAL INFORMATION</b>	
Electrical:	Terminal Type:
10A, 300V, 26-14 AWG	Spring Cage Clamp
Housing Material:	Terminal Screw Size:
Glass-filled Polycarbonate	_
Temperature Range:	Recommended Torque:
Up to 125°C (257°F)	_
Flammability Rating:	Max. PCB's:
UL94 V-O	(1) Horizontal
Color:	Mounting:
Light Gray	35mm DIN Rail or
	optional panel mounting*

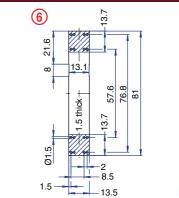
ORDERING INFORMATION				
Part Number	Туре	Description	PCB Connection	
91.502	KU4037C	Straight Pins	Machine Solder	

ACCESSORIES			
Accessories	Part Number	Туре	
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M	
*Panel Mount Tab	93.001.5	PMA/KU	

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



white the second second

# 8 Terminal

Tall Vertical PCB

Screw Clamp

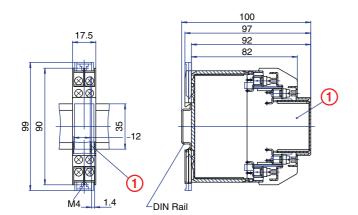


### **TECHNICAL INFORMATION**

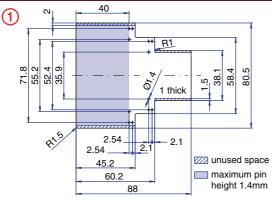
Electrical: 16A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (1) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
91.203	KU4001BT	Right Angle Pir	ns Machine Solder/ Wire Jumper
ACCESSOR	RIES		
Accessorie	S	Part Number	Туре
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M
Screw-hole a	nd	91.201.1	SHPC
Wire-Entry Cov	ver Plug Set		
*Panel Mount 7	Tab	93.001.5	PMA/KU
ENCLOSUR		IG (To convert to	inches divide by 25.4.)



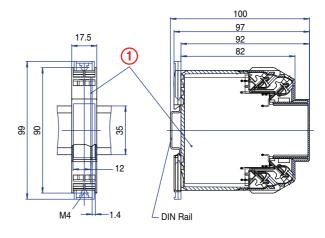
PCB DRAWING (To convert to inches divide by 25.4.)



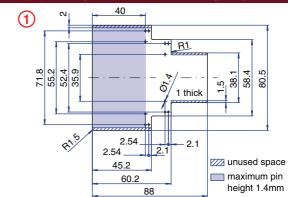


ORDERING	INFORMA	TION				
Part Number	Туре	Description	PCB Connection			
91.503	KU4037BT	Right Angle Pins	Machine Solder/ Wire Jumper			
ACCESSOR	ACCESSORIES					
Accessorie	s	Part Number	Туре			
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M			
*Panel Mount 1	ab	93.001.5	PMA/KU			

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



# <u>Altech</u>

**12 Terminal** with 8 Standard and 4 High Current Terminals Vertical PCB Screw Clamp



### **TECHNICAL INFORMATION**

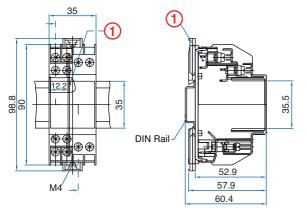
Electrical: Standard Terminal: 16A, 300V, 22-14 AWG High Current Terminal: 50A, 300V, 18-8 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Standard: Screw/Pressure Plate High Current: Box Clamp Terminal Screw Size: M3.5 / M4 Recommended Torque: 0.8Nm/1.2Nm Max. PCB's: (1) Vertical Mounting: 35mm DIN Rail or

optional panel mounting\*

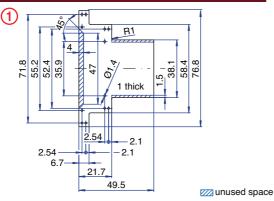
### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
91.710 K	U4088BHC	Right Angle Pins	s Machine Solder/ Wire Jumper
ACCESSORI	ES		
Accessories		Part Number	Туре
1 Meter DIN Ra	ail	2511120/1M	TS35x7.5/1M
Screw-hole an Wire-Entry Cove	•••	91.201.1	SHPC
*Panel Mount Ta	ab	93.001.5	PMA/KU

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)



**12 Terminal** with 8 Standard and 4 High Current Terminals Horizontal PCB Screw Clamp



Standard: Screw/Pressure Plate

High Current: Box Clamp

**Recommended Torque:** 

**Terminal Screw Size:** 

M3.5 / M4

0.8Nm/1.2Nm

Max. PCB's:

Mounting:

(1) Horizontal

35mm DIN Rail or

optional panel mounting\*

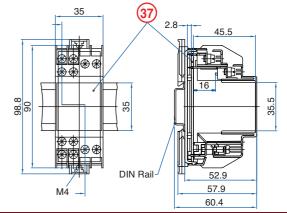
### TECHNICAL INFORMATION Electrical: Terminal Type:

Standard Terminal: 16A, 300V, 22-14 AWG High Current Terminal: 50A, 300V, 18-8 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

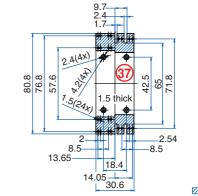
### ight Gray

ORDERING INFORMATION					
Part Numbe	er Type	Description	PCB Connection		
91.720	KU4088CHC	Straight Pins	Machine Solder Wire Jumper		
ACCESSO	RIES				
Accessori	es F	Part Number	Туре		
Accessori 1 Meter DIN		Part Number 2511120/1M	<b>Type</b> TS35x7.5/1M		
	Rail and				

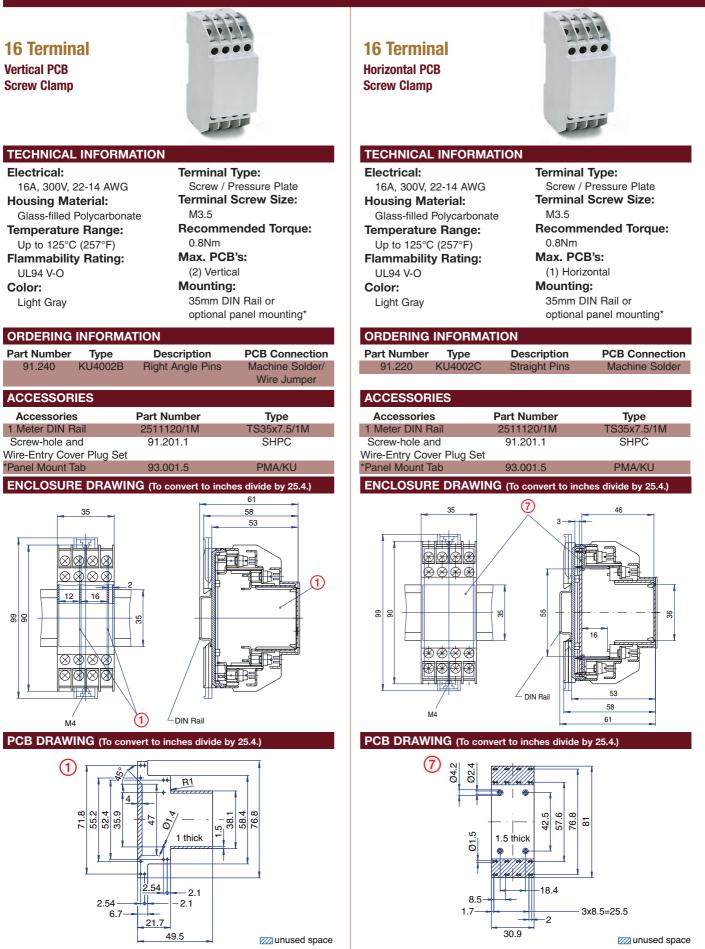
### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)

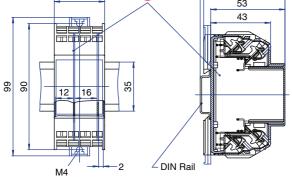


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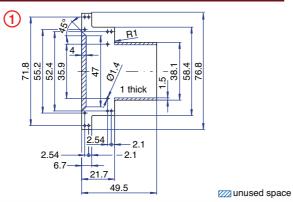


# <u>Altech</u>

<b>16 Terminal</b> Vertical PCB Spring Clamp			<b>16 Terminal</b> Horizontal PCB Spring Clamp			
TECHNICAL INFORM	ATION		<b>TECHNICAL INI</b>	ORMATION		
Electrical: 10A, 300V, 26-14 AWG Housing Material: Glass-filled Polycarbon	<b>Terminal</b> Spring C <b>Terminal</b>	<b>Type:</b> age Clamp <b>Screw Size:</b>	Electrical: 10A, 300V, 26-14 Housing Materi Glass-filled Poly	4 AWG <b>al:</b>		<b>Type:</b> age Clamp <b>Screw Size:</b>
Temperature Range:		ended Torque:	Temperature Ra	ange:	Recomm	ended Torque:
Up to 125°C (257°F) Flammability Rating:	– Max. PCE	B's:	Up to 125°C (25 Flammability Ra		– Max. PCE	B's:
UL94 V-O	(2) Vertic		UL94 V-O		(1) Horiz	
Color: Light Gray	<b>Mounting</b> 35mm Dl optional p		Color: Light Gray			I: IN Rail or panel mounting*
ORDERING INFORM	ATION		ORDERING INF	ORMATION		
Part Number Type 91.540 KU4038B	Description Right Angle Pins	PCB Connection Machine Solder/ Wire Jumper		/1	scription aight Pins	PCB Connect Machine Sold
ACCESSORIES			ACCESSORIES			
Accessories	Part Number	Туре	Accessories	Part N	umber	Туре
	2511120/1M	TS35x7.5/1M	1 Meter DIN Rail	25111	20/1M	TS35x7.5/1M



### PCB DRAWING (To convert to inches divide by 25.4.)

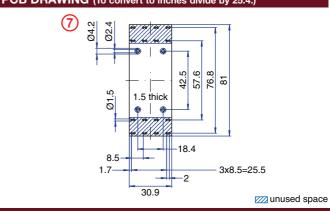


### PCB DRAWING (To convert to inches divide by 25.4.)

35

54

DIN Rail



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66

8

M4

36

53

58

61

\*Panel Mount Tab

66

#### **16 Terminal** 16 Terminal IN NAMES. **Tall Vertical PCB Tall Vertical PCB** Screw Clamp Spring Clamp PT PT.PT PT .... **TECHNICAL INFORMATION TECHNICAL INFORMATION Electrical: Terminal Type: Electrical: Terminal Type:** Spring Cage Clamp 16A, 300V, 22-14 AWG Screw / Pressure Plate 10A, 300V, 26-14 AWG **Housing Material: Terminal Screw Size: Housing Material: Terminal Screw Size:** Glass-filled Polycarbonate M3.5 Glass-filled Polycarbonate **Temperature Range: Recommended Torque: Temperature Range: Recommended Torque:** Up to 125°C (257°F) 0.8Nm Up to 125°C (257°F) Max. PCB's: Max. PCB's: Flammability Rating: Flammability Rating: UL94 V-O UL94 V-O (2) Vertical (2) Vertical Color: Mounting: Mounting: Color: Light Gray 35mm DIN Rail or Light Gray 35mm DIN Rail or optional panel mounting\* optional panel mounting\* ORDERING INFORMATION **ORDERING INFORMATION PCB** Connection **PCB** Connection Description Description Part Number Type Part Number Туре KU4002BT KU4038BT 91.243 **Right Angle Pins** Machine Solder/ 91.543 **Right Angle Pins** Machine Solder/ Wire Jumper Wire Jumper ACCESSORIES ACCESSORIES Accessories Part Number Туре Accessories Part Number Туре 1 Meter DIN Rail 2511120/1M 1 Meter DIN Rail 2511120/1M S35x7.5/1M 35x7.5/1N SHPC Screw-hole and 91.201.1 \*Panel Mount Tab 93.001.5 PMA/KU Wire-Entry Cover Plug Set

PMA/KU

(1)

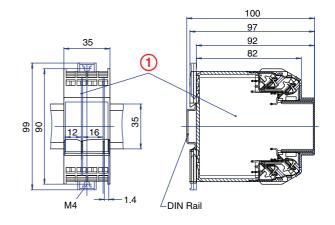
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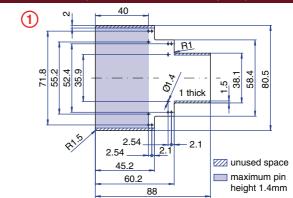
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82

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)

16

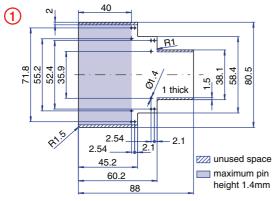
35

1.4

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M4

30

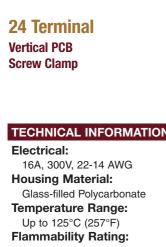


∠DIN Rail

93.001.5

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

# 4 ltrech





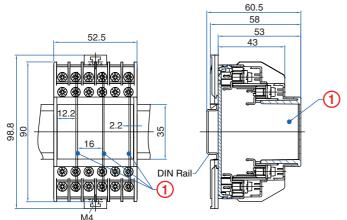
### **TECHNICAL INFORMATION**

UL94 V-O Color: Light Gray **Terminal Type:** Screw / Pressure Plate **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (3) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

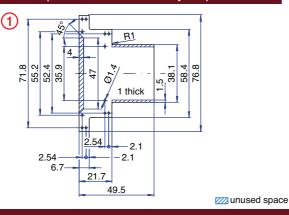
### ORDERING INFORMATION

UNDENING			
Part Number	Туре	Description	PCB Connection
91.440	KU4084B	Right Angle Pi	ns Machine Solder/ Wire Jumper
ACCESSOR	IES		
Accessories	6	Part Number	Туре
1 Meter DIN R	ail	2511120/1M	TS35x7.5/1M
Screw-hole ar Wire-Entry Cov		91.201.1	SHPC

PMA/KU \*Panel Mount Tab 93.001.5 ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)



24 Terminal **Horizontal PCB** 

**Screw Clamp** 



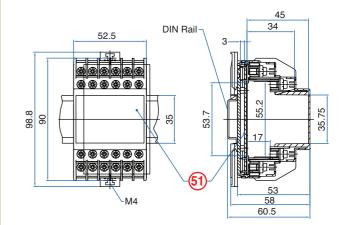
### **TECHNICAL INFORMATION**

**Electrical:** 16A, 300V, 22-14 AWG **Housing Material:** Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

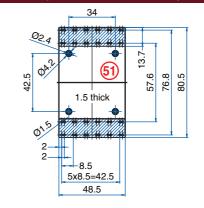
**Terminal Type:** Screw / Pressure Plate **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (1) Horizontal Mounting: 35mm DIN Rail or optional panel mounting\*

#### **ORDERING INFORMATION** PCB Connection Part Number Description Type 91.420 KU4084C Straight Pins Machine Solder

ACCESSORIES				
Accessories	Part Number	Туре		
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M		
Screw-hole and	91.201.1	SHPC		
Wire-Entry Cover Plug S	Set			
*Panel Mount Tab	93.001.5	PMA/KU		
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)				



### PCB DRAWING (To convert to inches divide by 25.4.)



winused space

### 24 Terminal Tall Vertical

PCB Screw Clamp



### **TECHNICAL INFORMATION**

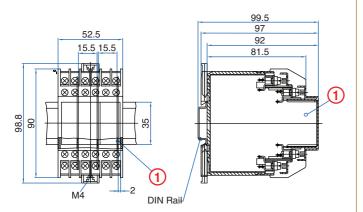
Electrical:
16A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O
Color:
Light Gray

Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (3) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

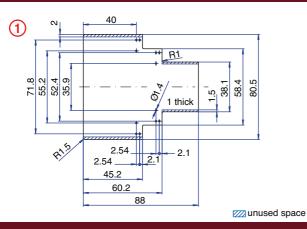
### **ORDERING INFORMATION**

Part Number	Туре	Descriptior	n PCB Connection
91.443	KU4084BT	Right Angle P	Pins Machine Solder/ Wire Jumper
ACCESSOR	RIES		
Accessorie	s	Part Number	Туре
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M
Screw-hole a	nd	91.201.1	SHPC
Wire-Entry Cov	/er Plug Set		
*Panel Mount 1	Tab T	93.001.5	PMA/KU

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



# Altech

24 Terminal with 16 Standard and **8 High Current Terminals Vertical PCB Screw Clamp** 

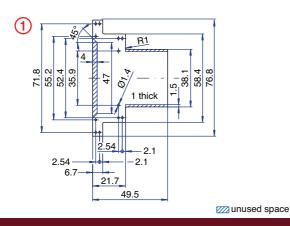


### **TECHNICAL INFORMATION**

Electrical: Standard Terminal: 16A, 300V, 22-14 AWG High Current Terminal: 50A, 300V, 18-8 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray		Standard: High Curr Terminal S M3.5 / M4 Recomme 0.8Nm / 1 Max. PCB (2) Vertica Mounting: 35mm Dil	Terminal Type: Standard: Screw/Pressure Plate High Current: Box Clamp Terminal Screw Size: M3.5 / M4 Recommended Torque: 0.8Nm / 1.2Nm Max. PCB's: (2) Vertical Mounting: 35mm DIN Rail or optional panel mounting*	
ORDERIN	g informat	ION		
Part Numbe	er Type	Description	PCB Connection	
91.730	KU4089BHC	Right Angle Pins	Machine Solder/ Wire Jumper	
ACCESSO	RIES			
Accessor	ies	Part Number	Туре	
1 Meter DIN	Rail	2511120/1M	TS35x7.5/1M	
Screw-hole Wire-Entry C	and over Plug Set	91.201.1	SHPC	
*Panel Mount	t Tab	93.001.5	PMA/KU	
ENCLOSU		<b>G</b> (To convert to inc	hes divide by 25.4.)	

æ R 98.8 35.5 6 35 \*\*\* ֎֎֎֎ rad 52.9 57.9 M4 DIN Rail 60.4

### PCB DRAWING (To convert to inches divide by 25.4.)



24 Terminal with 16 Standard and **8 High Current Terminals Horizontal PCB** Screw Clamp

Color: Light Gray



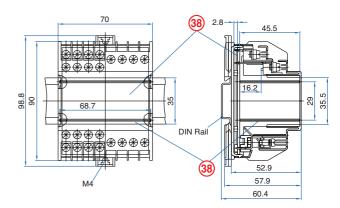
#### **TECHNICAL INFORMATION Electrical: Terminal Type:** Standard Terminal: Standard: Screw/Pressure Plate 16A, 300V, 22-14 AWG High Current: Box Clamp High Current Terminal: **Terminal Screw Size:** 50A, 300V, 18-8 AWG M3.5 / M4 Housing Material: **Recommended Torque:** Glass-filled Polycarbonate 0.8Nm/ 1.2Nm **Temperature Range:** Max. PCB's: Up to 125°C (257°F) (1) Horizonal, (2) Vertical Flammability Rating: Mounting: UL94 V-O

35mm DIN Rail or optional panel mounting\* **ORDERING INFORMATION** 

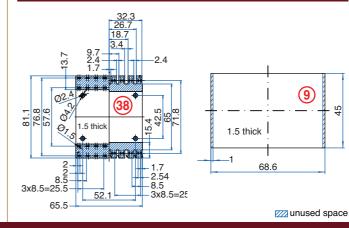
Description PCB Connection Part Number Type 91.740 KU4089CHC Straight Pins Machine Solder/ Wire Jumper ACCESSORIES

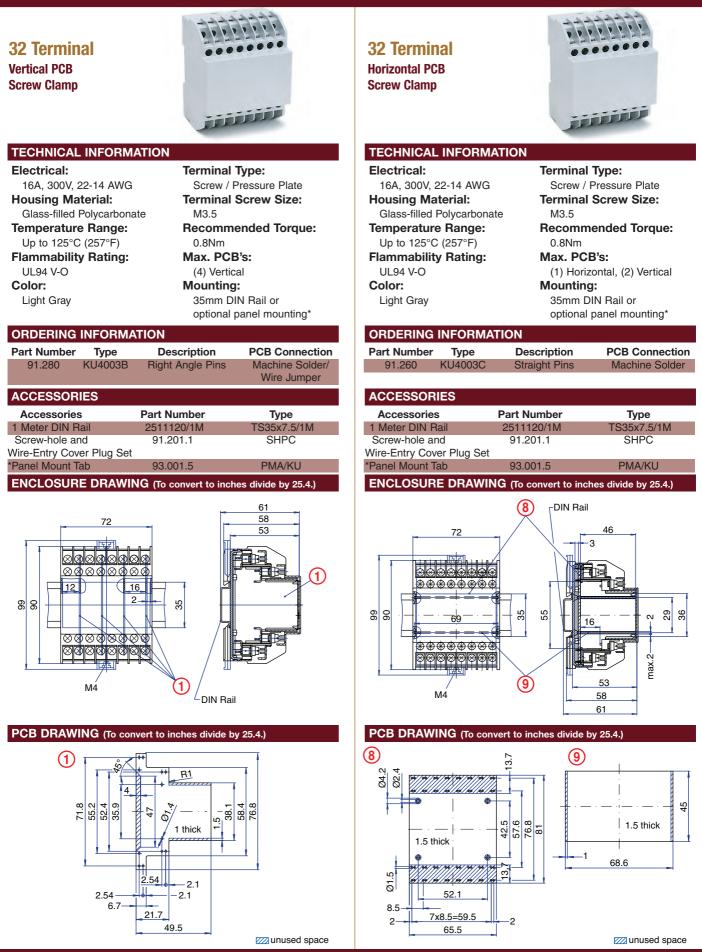
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Screw-hole and	91.201.1	SHPC
Wire-Entry Cover Plug Set		
*Panel Mount Tab	93.001.5	PMA/KU

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)

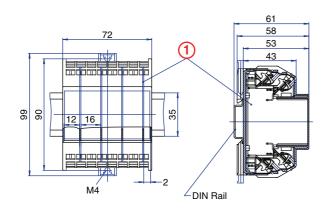




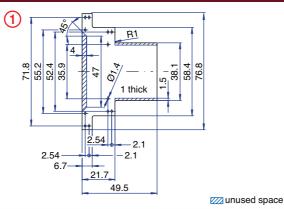


<b>32 Terminal</b> Vertical PCB Spring Clamp	** **		
<b>TECHNICAL INFORM</b>	ATION		
Electrical: 10A, 300V, 26-14 AWG Housing Material: Glass-filled Polycarbona Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray	Spring C Terminal ate – Recomm – Max. PCI (4) Vertion Mounting 35mm D	Terminal Type: Spring Cage Clamp Terminal Screw Size: e – Recommended Torque: – Max. PCB's: (4) Vertical Mounting: 35mm DIN Rail or optional panel mounting*	
ORDERING INFORMA			
Part Number Type 91.580 KU4039B	Description Right Angle Pins	PCB Connection Machine Solder/ Wire Jumper	
ACCESSORIES			
Accessories	Part Number	Туре	
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M	
*Panel Mount Tab	93.001.5	PMA/KU	

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



32 Terminal		
Horizontal PCB		
Spring Clamp		

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### **TECHNICAL INFORMATION**

**Terminal Type:** Spring Cage Clamp **Terminal Screw Size:** 

ALC AND

**Recommended Torque:** 

Max. PCB's: (1) Horizontal Mounting: 35mm DIN Rail or optional panel mounting\*

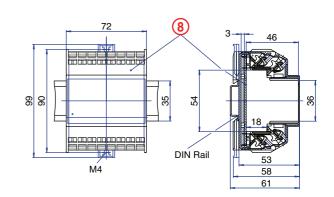
### **ORDERING INFORMATION**

Part Number Туре Description KU4039C 91.560 Straight Pins

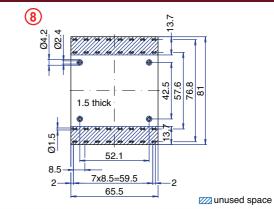
PCB	Con	nect	ion
Mac	hine	Solo	ler

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab	93.001.5	PMA/KU

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



# 32 Terminal

Tall Vertical PCB Screw Clamp

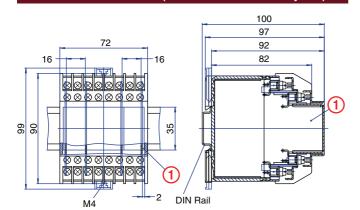


### **TECHNICAL INFORMATION**

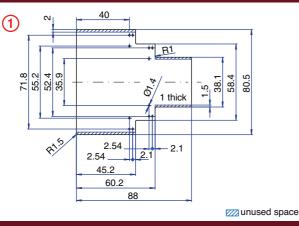
Electrical: 16A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (4) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

### ORDERING INFORMATION

Part Number	2 T T	Description	PCB Connection
91.283	KU4003BT	Right Angle Pins	Machine Solder/ Wire Jumper
ACCESSOR	RIES		
Accessorie	s	Part Number	Туре
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M
Screw-hole a	nd	91.201.1	SHPC
Wire-Entry Cov	/er Plug Set		
*Panel Mount 7	Tab 0	93.001.5	PMA/KU
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)			



### PCB DRAWING (To convert to inches divide by 25.4.)



# **32 Terminal** Tall Vertical PCB Spring Clamp TECHNICAL INFORMATION

Electrical: 10A, 300V, 26-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Spring Cage Clamp Terminal Screw Size:

TETETET

Recommended Torque:

Max. PCB's: (4) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

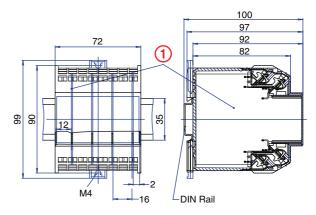
**PCB** Connection

Machine Solder/ Wire Jumper

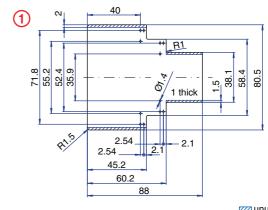
# ORDERING INFORMATION Part Number Type Description 91.583 KU4039BT Right Angle Pins

Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab	93.001.5	PMA/KU

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

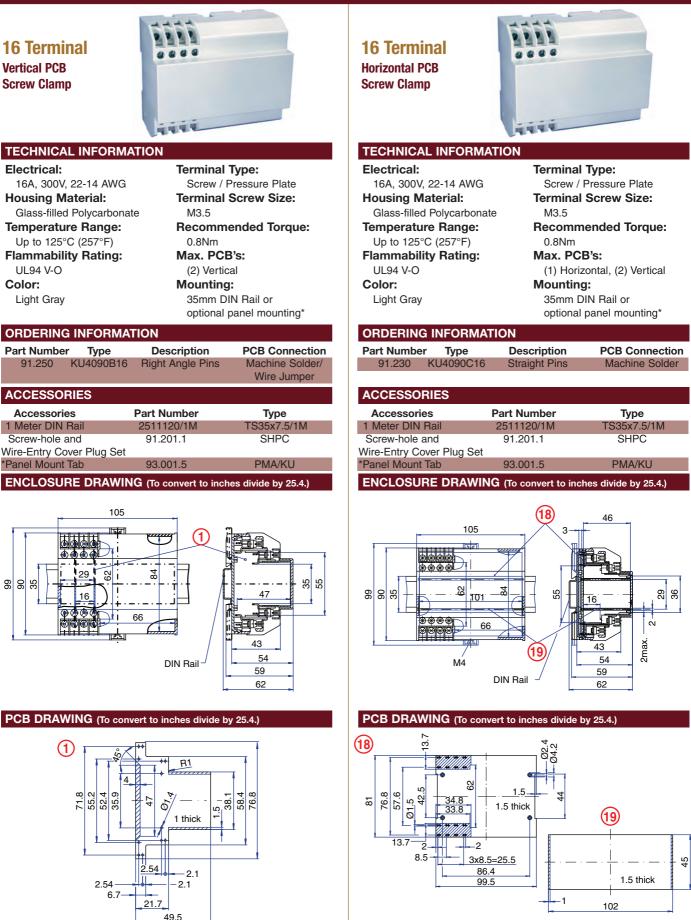


### PCB DRAWING (To convert to inches divide by 25.4.)



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### 16 Terminal Vertical PCB

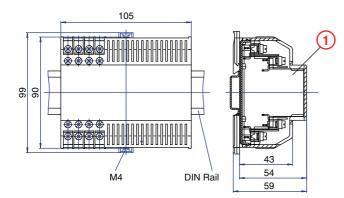
Screw Clamp with vent slots

### **TECHNICAL INFORMATION**

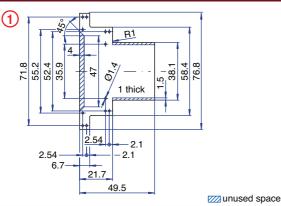
Electrical: 16A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (3) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

### ORDERING INFORMATION

Part Number		Description	PCB Connection
91.255 k	KU4090B16V	Right Angle Pi	ns Machine Solder/ Wire Jumper
ACCESSOR	RIES		
Accessorie	s	Part Number	Туре
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M
Screw-hole a	nd	91.201.1	SHPC
Wire-Entry Cov	ver Plug Set		
*Panel Mount 7	Tab C	93.001.5	PMA/KU
ENCLOSUE		G (To convert to	inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



### **16 Terminal**

Horizontal PCB Screw Clamp with vent slots



### **TECHNICAL INFORMATION**

Electrical:
16A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O
Color:
Light Gray

Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (1) Horizontal, (2) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

### ORDERING INFORMATION

 Part Number
 Type

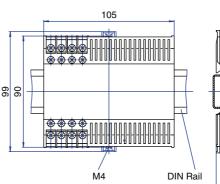
 91.235
 KU4090C16V

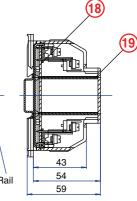
PCB Connection Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Screw-hole and	91.201.1	SHPC
Wire-Entry Cover Plug S	et	
*Panel Mount Tab	93.001.5	PMA/KU
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)		

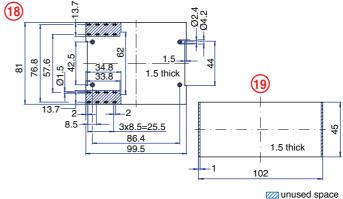
Description

Straight Pins

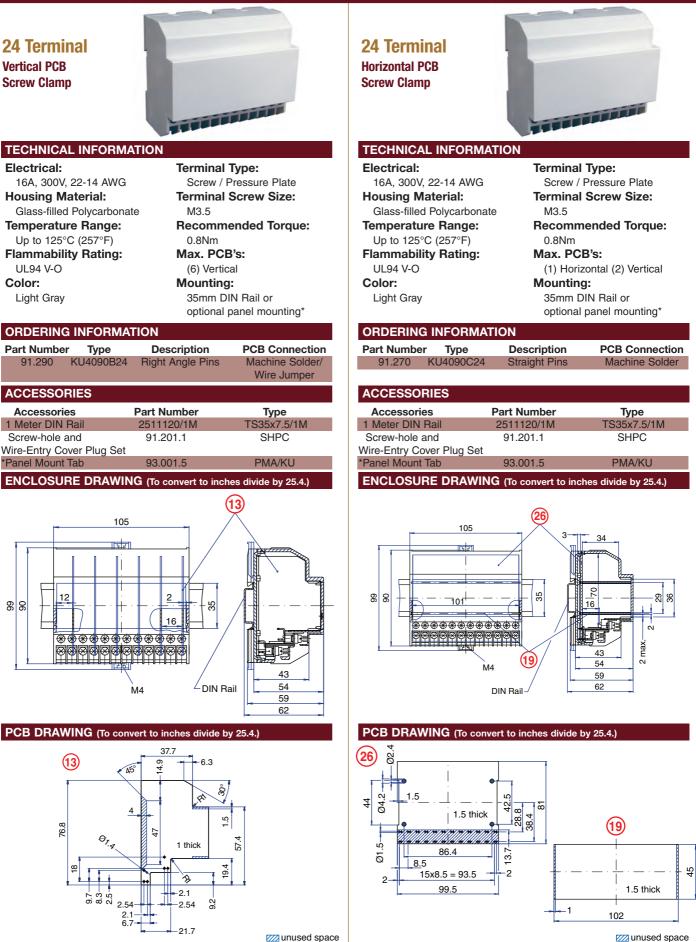




PCB DRAWING (To convert to inches divide by 25.4.)



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### 24 Terminal **Vertical PCB**

**Spring Clamp** 



### **TECHNICAL INFORMATION**

**Electrical:** 10A, 300V, 26-14 AWG **Housing Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

**Terminal Type:** Spring Cage Clamp **Terminal Screw Size:** 

**Recommended Torque:** 

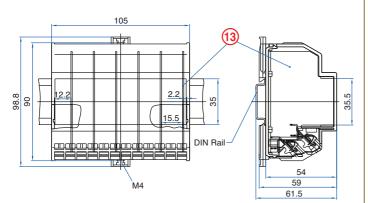
### Max. PCB's: (6) Vertical

Mounting: 35mm DIN Rail or optional panel mounting\*

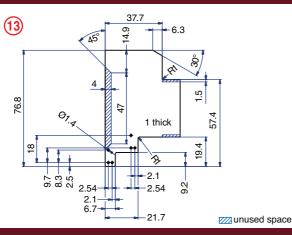
### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection
91.590	KU4040B	Right Angle Pins	Machine Solder/
			Wire Jumper
ACCESSOR	IES		
Accessories	5	Part Number	Туре
1 Meter DIN R	lail	2511120/1M	TS35x7.5/1M
*Panel Mount T	ab	93.001.5	PMA/KU

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



# 24

**Terminal** 

**Horizontal PCB Spring Clamp** 



#### **TECHNICAL INFORMATION Electrical: Terminal Type:** 10A, 300V, 26-14 AWG **Housing Material:** Glass-filled Polycarbonate

**Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

Spring Cage Clamp **Terminal Screw Size:** 

**Recommended Torque:** 

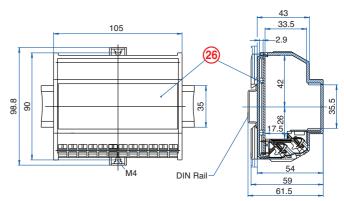
Max. PCB's: (1) Horizontal Mounting:

35mm DIN Rail or optional panel mounting\*

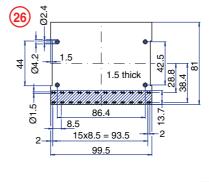
#### **ORDERING INFORMATION PCB** Connection Part Number Description Туре 91.570 KU4040C Straight Pins Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab	93.001.5	PMA/KU

### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



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# Altech

24 Terminal with 16 Standard and **8 High Current Terminals** Vertical PCB Screw Clamp

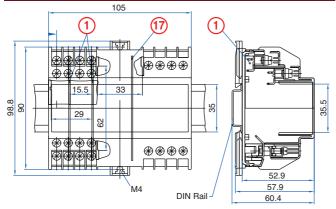


### **TECHNICAL INFORMATION**

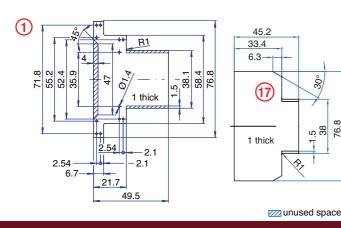
Electrical: Standard Terminal: 16A, 300V, 22-14 AWG High Current Terminal: 50A, 300V, 18-8 AWG Housing Material: Glass-filled Polycarbona Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray	Standard High Cur <b>Terminal</b> M3.5 / M <b>Recomm</b> te 0.8Nm / <sup>-</sup> <b>Max. PCE</b> (3) Vertic <b>Mounting</b>	35mm DIN Rail or	
ORDERING INFORMA	TION		
Part Number Type	Description	PCB Connection	
91.750 KU4090BHC	Right Angle Pins	Machine Solder/ Wire Jumper	
ACCESSORIES			
Accessories	Part Number	Туре	
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M	
Screw-hole and	91.201.1	SHPC	
Wire-Entry Cover Plug Set			

		Wire Jumper
ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Screw-hole and	91.201.1	SHPC
Wire-Entry Cover Plug	Set	
*Panel Mount Tab	93.001.5	PMA/KU

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



# late

24 Terminal with 16 Standard and **8 High Current Terminals** Vertical PCB Screw Clamp



#### **TECHNICAL INFORMATION Electrical: Terminal Type:** Standard Terminal: Standard: Screw/Pressure Plate 16A, 300V, 22-14 AWG High Current: Box Clamp High Current Terminal: **Terminal Screw Size:** 50A, 300V, 18-8 AWG M3.5 / M4 **Housing Material: Recommended Torque:** Glass-filled Polycarbonate 0.8Nm / 1.2Nm **Temperature Range:** Max. PCB's: Up to 125°C (257°F) (1) Horizontal, (2) Vertical Flammability Rating: Mounting: UL94 V-O 35mm DIN Rail or Color: Light Gray optional panel mounting\*

### **ORDERING INFORMATION**

Part Number Type 91.760 KU4090CHC

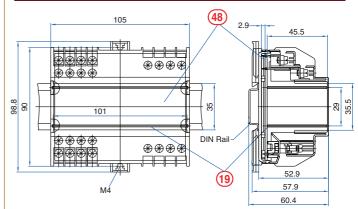
Description Straight Pins

Machine Solder/ Wire Jumper

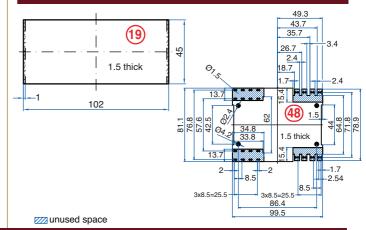
**PCB** Connection

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Screw-hole and	91.201.1	SHPC
Wire-Entry Cover Plug Set		
*Panel Mount Tab	93.001.5	PMA/KU

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)



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### 48 Terminal Vertical PCB Screw Clamp



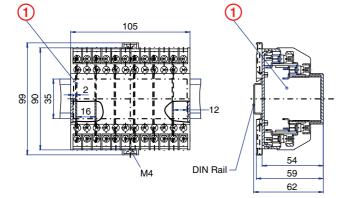
### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (6) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

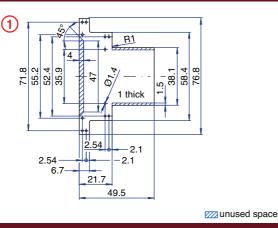
### ORDERING INFORMATION

Part Number	Туре	Descriptior	PCB Connection
91.330	KU4090B48	Right Angle P	ins Machine Solder/ Wire Jumper
ACCESSOR	RIES		
Accessorie	s	Part Number	Туре
1 Meter DIN I	Rail	2511120/1M	TS35x7.5/1M
Screw-hole a Wire-Entry Co		91.201.1	SHPC
*Panel Mount	0	93.001.5	PMA/KU

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



### PCB DRAWING (To convert to inches divide by 25.4.)



### 48 Terminal Horizontal PCB

Screw Clamp



### **TECHNICAL INFORMATION**

Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (1) Horizontal, (2) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

# ORDERING INFORMATION Part Number Type Description

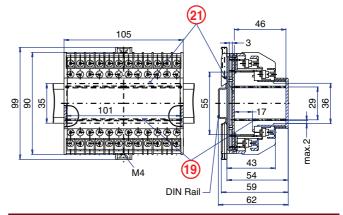
 Part Number
 Type

 91.310
 KU4090C48

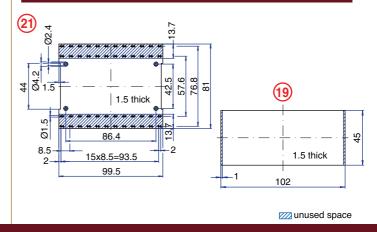
PCB Connection Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Screw-hole and	91.201.1	SHPC
Wire-Entry Cover Plug Se	t	
*Panel Mount Tab	93.001.5	PMA/KU
ENCLOSUBE DRAWING (To convert to inches divide by 25.4.)		

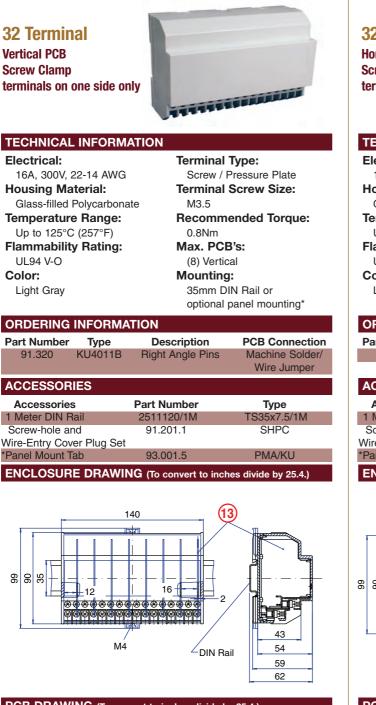
**Straight Pins** 



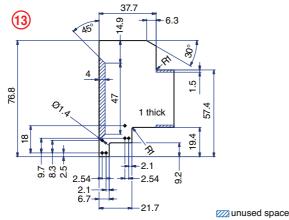
PCB DRAWING (To convert to inches divide by 25.4.)



# <u>Altech</u>



### PCB DRAWING (To convert to inches divide by 25.4.)



32 Terminal Horizontal PCB Screw Clamp terminals on one side only



### **TECHNICAL INFORMATION**

Electrical:
16A, 300V, 22-14 AWG
Housing Material:
Glass-filled Polycarbonate
Temperature Range:
Up to 125°C (257°F)
Flammability Rating:
UL94 V-O
Color:
Light Gray

Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (1) Horizontal, (2) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

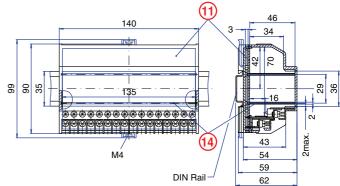
# ORDERING INFORMATION Part Number Type Description

91.300 KU4011C

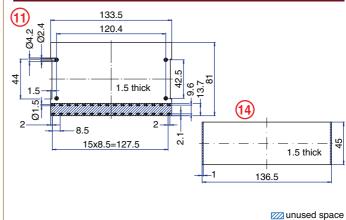
PCB Connection Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Screw-hole and	91.201.1	SHPC
Wire-Entry Cover Plug Se	et	
*Panel Mount Tab	93.001.5	PMA/KU
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)		

Straight Pins



### PCB DRAWING (To convert to inches divide by 25.4.)



# 32 Terminal

Vertical PCB Screw Clamp terminals in corners only

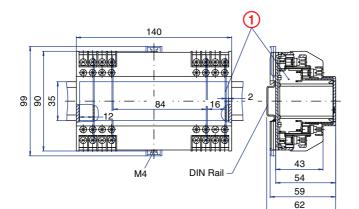


### **TECHNICAL INFORMATION**

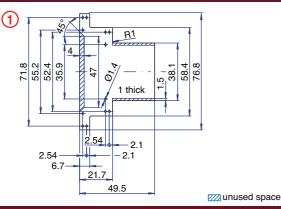
Electrical: 16A, 300V, 22-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (4) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
91.360	KU4012B	Right Angle Pi	ns Machine Solder/ Wire Jumper
ACCESSOR	IES		
Accessories	S	Part Number	Туре
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M
Screw-hole a Wire-Entry Cov		91.201.1	SHPC
*Panel Mount T	0	93.001.5	PMA/KU
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)			



### PCB DRAWING (To convert to inches divide by 25.4.)



 32 Terminal

 Horizontal PCB

 Screw Clamp

 terminals in corners only

 TECHNICAL INFORMATION

 Electrical:

 16A, 300V, 22-14 AWG

 Housing Material:

Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Screw / Pressure Plate Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (1) Horizontal, (2) Vertical Mounting: 35mm DIN Rail or optional panel mounting\*

### ORDERING INFORMATION Part Number Type Description

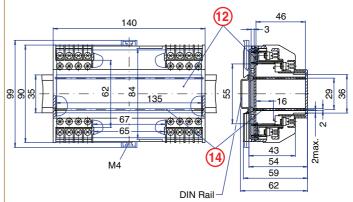
91.340 KU4012C

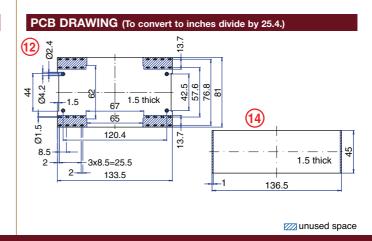
PCB Connection Machine Solder

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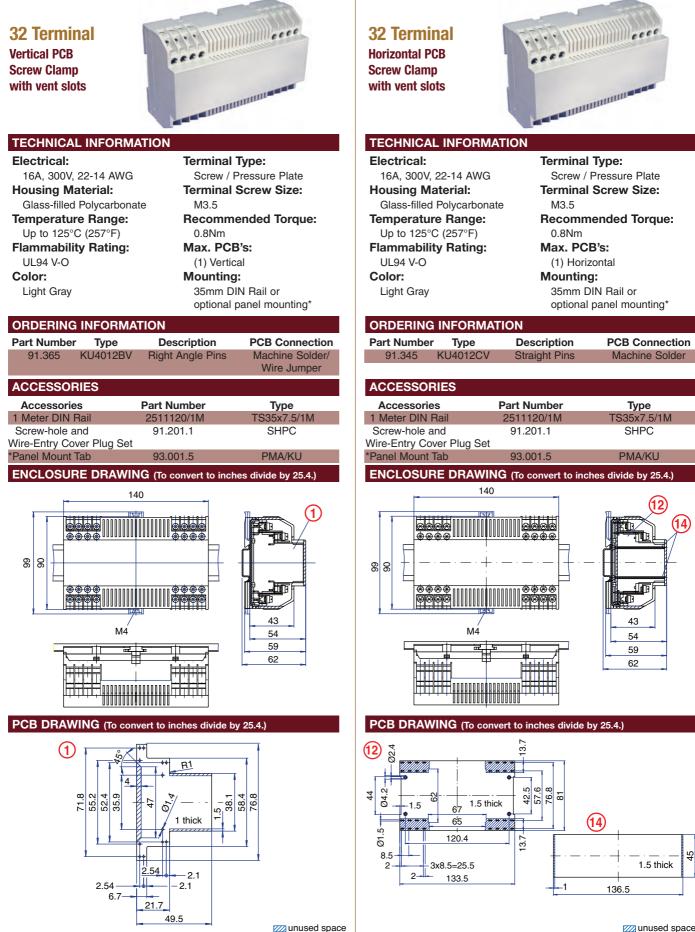
ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Screw-hole and Wire-Entry Cover Plug Set	91.201.1	SHPC
*Panel Mount Tab	93.001.5	PMA/KU
ENCLOSUBE DRAWING (To convert to inches divide by 25.4)		

Straight Pins

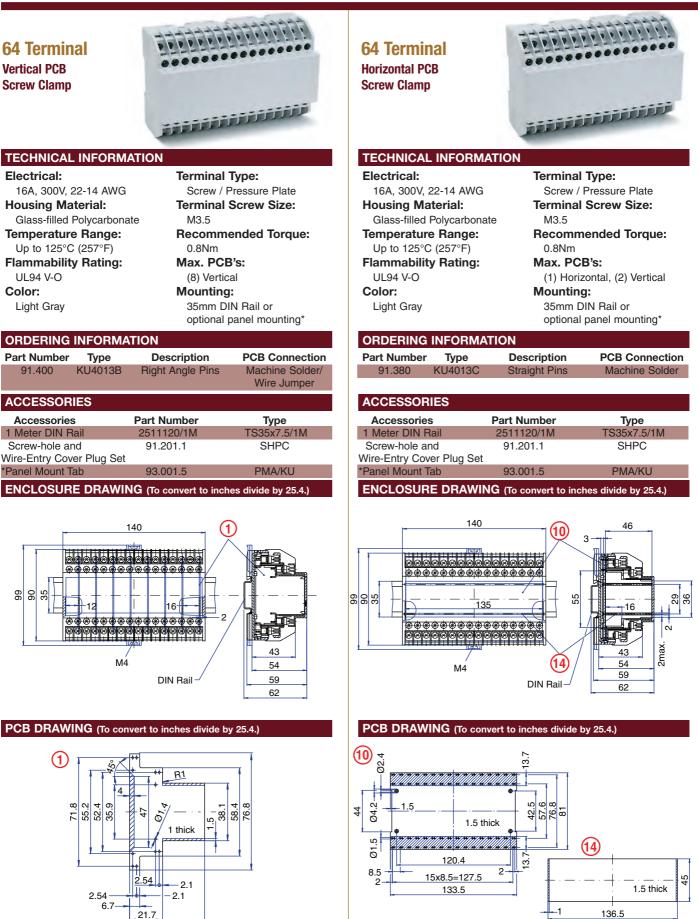




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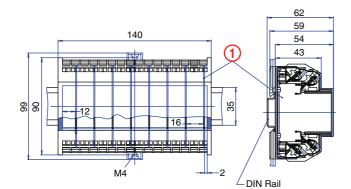
\*P

# tech

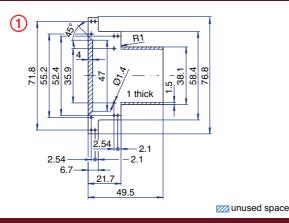


Part Number	Туре
2511120/1M	TS35x7.5/1M
93.001.5	PMA/KU
	2511120/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



64 Terminal		
Horizontal PCB		
Spring Clamp		



#### **TECHNICAL INFORMATION Electrical: Terminal Type:** 10A, 300V, 26-14 AWG Spring Cage Clamp **Housing Material: Terminal Screw Size: Glass-filled Polycarbonate Temperature Range: Recommended Torque:** Up to 125°C (257°F) Flammability Rating: Max. PCB's: UL94 V-O

(1) Horizontal Mounting: 35mm DIN Rail or optional panel mounting\*

#### **ORDERING INFORMATION**

Part Number Type 91.610 KU4041C

Color:

Light Gray

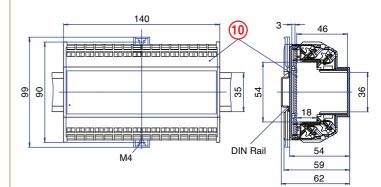
**PCB** Connection Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
*Panel Mount Tab	93.001.5	PMA/KU

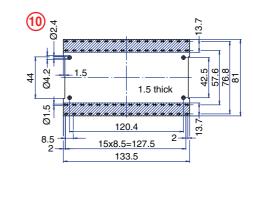
Description

Straight Pins

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



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The versatile **KU4100 series** features a compact design with different terminal configuration options. They are available in six widths with double level terminal locations. Terminal configuration options include blank enclosures with no terminal openings, fixed PCB terminals and pluggable PCB terminals.

#### MATERIALS

#### Housing

Housing Shell: Polycarbonate, 10% Glass Filled Base: Polycarbonate, 10% Glass Filled

#### Terminals

Housing: Polyamide Terminal Pins: Tinned Brass

#### **TEMPERATURE RATING:**

115°C (239°F) UL94V0 Housing: Light Gray Cover with Black Base

#### PROTECTION

KU4100 enclosures have an IP30 rating, IP20 for terminal openings, (finger protected) and meet VBG4 and other European accident prevention requirements.

#### CONSTRUCTION

The KU4100 enclosure series housings are supplied as unassembled kits. Each kit consists of a flat base, a housing cover and terminal sets where applicable. The terminals are set on two levels to maximize space. The terminals are machine solderable. Integral printed circuit guides are molded into the cover for proper board insertion and containment. Multiple boards can be mounted in each enclosure, usually 2 PCBs are used with the terminals and one additional PCB can be used for display or control elements in the enclosure front.

#### TERMINALS

There are 4 options available; no terminal openings, fixed PCB terminals, pluggable PCB terminals and high current terminals. The terminal blocks are all machine solderable.

The option of no terminal openings allows for custom openings to be made to accommodate alternate connector types.

Fixed PCB terminals are standard screw cage clamp style terminal blocks. Terminal covers are available for the fixed PCB terminal version to cover unused terminals. The terminal cover is a 12 pole strip that is breakable into individual poles. It snaps into the enclosure covering the screw hole and wire entry areas.

Pluggable PCB terminals feature male pin headers and female screw cage clamp plugs that can be plugged/unplugged. **Power source must be disconnected before plugging/unplugging terminals.** 

High current terminals feature rising clamps where the wire is clamped between the clamp and the terminal strip.

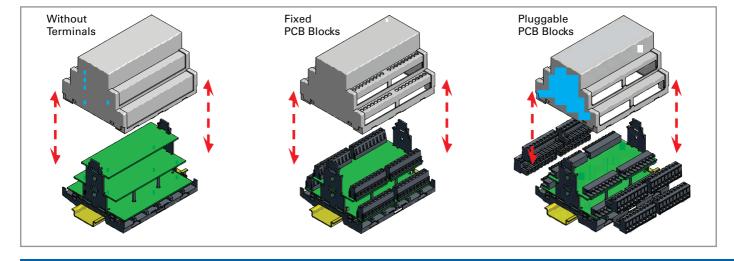
#### MOUNTING

The KU4100 series can easily be mounted on standard 35mm DIN rail by means of the integral mounting foot and DIN clip.

#### **CUSTOMIZATION**

We can supply the KU4100 series enclosures with many custom options including:

Partial terminal loading Enclosure bus connections Ventilation Slots Machining of custom holes



**17.5mm Enclosure** 

Without Terminals

# <u>Altech</u>



#### **TECHNICAL INFORMATION**

Electrical: – Housing Material: Glass-filled Polycar Temperature Banc

Glass-filled Polycarbonate Temperature Range: Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base Terminal Type:

**Terminal Screw Size:** 

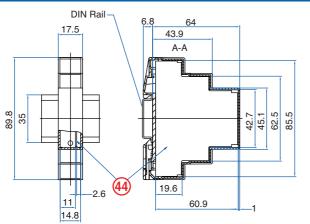
Recommended Torque:

PCB Locations: (1) Vertical, Perpendicular Mounting: 35mm DIN Rail

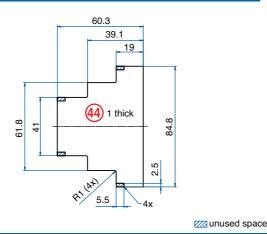
#### ORDERING INFORMATION

ONDENING			
Part Number	Туре	Description	PCB Connection
91.800	KU4187B	Without Terminals	None
ACCESSORIES			
Accessories	6	Part Number	Туре
1 Meter DIN R	ail	2511120/1M	TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



**12 Terminal** Fixed PCB Blocks



#### **TECHNICAL INFORMATION**

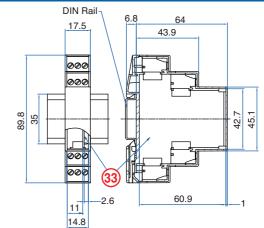
Electrical: 12A, 250V, 24-12 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base and Terminals Terminal Type: Screw / Rising Clamp Terminal Screw Size: M2.5 Recommended Torque: 0.4Nm PCB Locations: (1) Vertical, Perpendicular Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

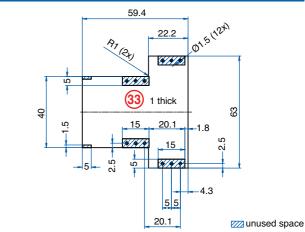
Part Number	Туре	Description	PCB Connection
91.801	KU4187F	Fixed PCB Terminal	Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Cover (12 pole)	91.801.1	TCS/12

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



**12 Terminal** Pluggable PCB Plugs / Headers



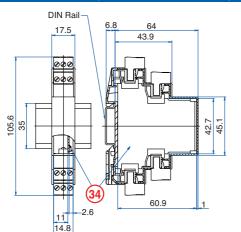
#### **TECHNICAL INFORMATION**

Electrical: 12A, 250V, 28-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base and Terminals Terminal Type: Screw / Rising Clamp Terminal Screw Size: M2.5 Recommended Torque: 0.4Nm PCB Locations: (1) Vertical, Perpendicular Mounting: 35mm DIN Rail

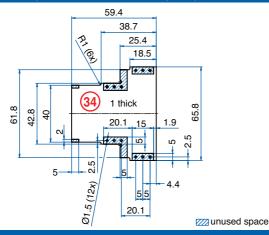
#### **ORDERING INFORMATION**

Part Number	Туре	Description	PCB Connection
91.802	KU4187P	Pluggable PCB Terminals	Machine Solder
ACCESSOR	IES		
Accessories	6	Part Number	Туре
1 Meter DIN F	ail	2511120/1M	TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



8 Terminal High Current PCB Blocks

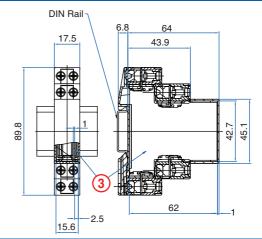


#### **TECHNICAL INFORMATION**

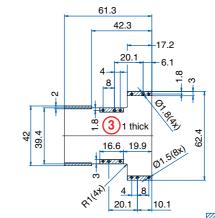
Electrical:	Terminal Type:
40A, 250V, 20-8 AWG	Screw / Rising Clamp
Housing Material:	Terminal Screw Size:
Glass-filled Polycarbonate	M3.5
Temperature Range:	<b>Recommended Torque:</b>
Up to 115°C (239°F)	1.2Nm
Flammability Rating:	PCB Locations:
UL94 V-O	(1) Vertical, Perpendicular
Color:	Mounting:
Light Gray Cover, Black Base	35mm DIN Rail

ORDERING INFORMATION				
Part Number	Туре	Description	PCB Connection	
91.803	KU4187HC	High Current Terminals	Machine Solder	
ACCESSORIES				
Accessorie	s	Part Number	Туре	
1 Meter DIN F	Rail	2511120/1M	TS35x7.5/1M	

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



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35mm Enclosure

**Without Terminals** 

# **Altech**



#### **TECHNICAL INFORMATION**

**Electrical:** 

Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base

#### Terminal Type:

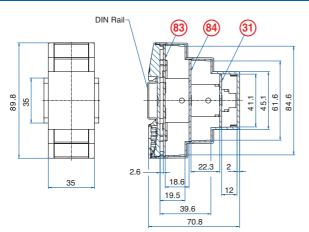
Terminal Screw Size:

Recommended Torque:

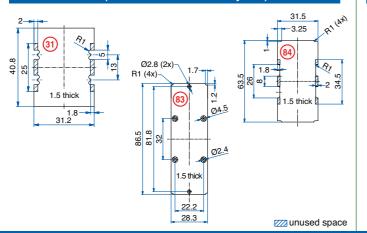
PCB Locations: (3) Vertical, Parallel Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION** Description **PCB** Connection Part Number Туре 91.810 KU4188B Without None Terminals ACCESSORIES Accessories Part Number Туре 1 Meter DIN Rail 2511120/1M TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



20 Terminal Fixed PCB Blocks



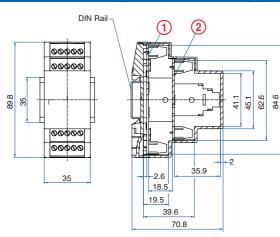
#### **TECHNICAL INFORMATION**

Electrical: 12A, 250V, 24-12 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base and Terminals

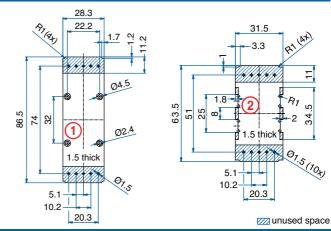
#### Terminal Type: Screw / Rising Clamp Terminal Screw Size: M2.5 Recommended Torque: 0.4Nm PCB Locations: (2) Vertical, Parallel Mounting: 35mm DIN Rail

ORDERING INFORMATION			
Part Number	Туре	Description	PCB Connection
91.811	KU4188F	Fixed PCB Terminal	Machine Solder
ACCESSOR	IES		
Accessories	6	Part Number	Туре
1 Meter DIN R	ail	2511120/1M	TS35x7.5/1M
<b>Terminal Cover</b>	(12 pole)	91.801.1	TCS/12

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



## 20 Terminal Pluggable PCB

Plugs / Headers



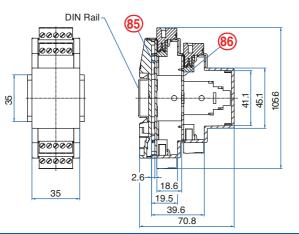
#### **TECHNICAL INFORMATION**

Electrical: 12A, 250V, 28-14 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base and Terminals Terminal Type: Screw / Rising Clamp Terminal Screw Size: M2.5 Recommended Torque: 0.4Nm PCB Locations: (2) Vertical, Parallel Mounting: 35mm DIN Rail

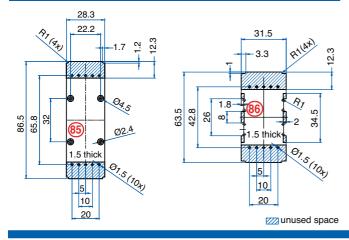
#### ORDERING INFORMATION

ORDERING INFORMATION					
	Part Number	Туре	Description	PCB Connection	
	91.812	KU4188P	Pluggable PCB Terminals	Machine Solder	
	ACCESSORIES				
	Accessories	6	Part Number	Туре	
	1 Meter DIN F	ail	2511120/1M	TS35x7.5/1M	

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



16 Terminal High Current PCB Blocks

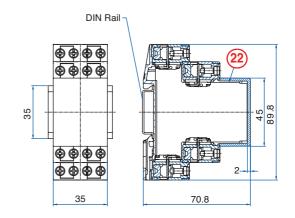


#### **TECHNICAL INFORMATION**

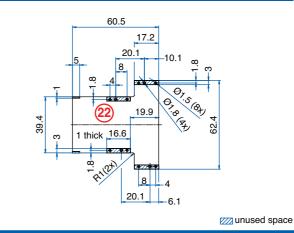
Electrical:	Terminal Type:
40A, 250V, 20-8 AWG	Screw / Rising Clamp
Housing Material:	Terminal Screw Size:
Glass-filled Polycarbonate	M3.5
Temperature Range:	Recommended Torque:
Up to 115°C (239°F)	1.2Nm
Flammability Rating:	PCB Locations:
UL94 V-O	(2) Vertical, Perpendicular
Color:	Mounting:
Light Gray Cover, Black Base	35mm DIN Rail

ORDERING INFORMATION			
Part Number	Туре	Description	PCB Connection
91.813 Kl	J4188HC	High Current Terminals	Machine Solder
ACCESSORIES			
Accessories		Part Number	Туре
1 Meter DIN Rai	l	2511120/1M	TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



52.5mm Enclosure

Without Terminals

# Alteck

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#### **TECHNICAL INFORMATION**

**Electrical:** 

**Housing Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base

**Terminal Type:** 

**Terminal Screw Size: Recommended Torque:** 

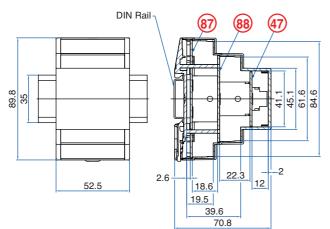
**PCB Locations:** (3) Vertical, Parallel Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

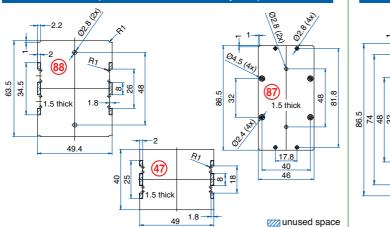
Туре Description PCB Connection Part Number 91.820 KU4184B Without None Terminals ACCESSORIES

Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



<b>36 Terminal</b> Fixed PCB Blocks	29990	0.00
<b>TECHNICAL INFORMAT</b>	ION	
Electrical: 12A, 250V, 24-12 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Ba and Terminals	Terminal M2.5 Recomm 0.4Nm PCB Loc (2) Vertic Mounting	Rising Clamp Screw Size: ended Torque: ations: cal, Parallel g:
ORDERING INFORMATI	ON	
Part Number Type	Description	PCB Connecti

PCB Connection

Machine Solder

KU4184F

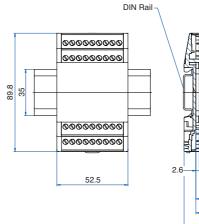
91.821

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Cover (12 pole)	91.801.1	TCS/12

Fixed PCB

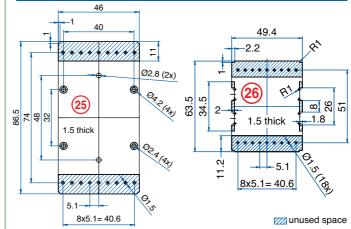
Terminals

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



(26) 45.1 61.6 84.6 41.1 -2 35.8 18.6 19.5 39.6 70.8

#### PCB DRAWING (To convert to inches divide by 25.4.)



## **36 Terminal**

**Pluggable PCB** 

**Plugs / Headers** 



#### **TECHNICAL INFORMATION**

**Electrical:** 12A, 250V, 28-14 AWG **Housing Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 115°C (239°F) **Flammability Rating:** UL94 V-O Color: Light Gray Cover, Black Base and Terminals

**Terminal Type:** Screw / Rising Clamp **Terminal Screw Size:** M2.5 **Recommended Torque:** 0.4Nm **PCB Locations:** (2) Vertical, Parallel Mounting: 35mm DIN Rail

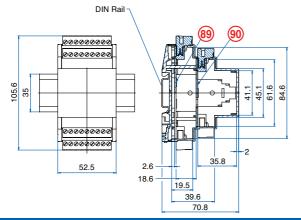
#### **ORDERING INFORMATION**

1

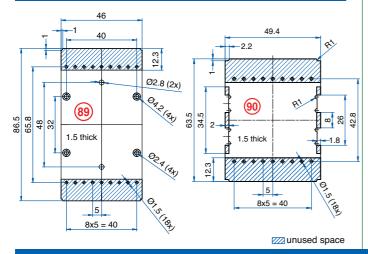
PCB Connection Part Number Туре Description 91.822 KU4184P Pluggable Machine Solder **PCB** Terminals ACCESSORIES whi Muuma la au Type 35x7.5/1M

Accessories	Part Number	
Meter DIN Rail	2511120/1M	TS

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



**70mm Enclosure Without Terminals TECHNICAL INFORMATION Electrical: Terminal Type: Terminal Screw Size: Housing Material:** Glass-filled Polycarbonate

**Recommended Torque: PCB Locations:** (3) Vertical, Parallel Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

Light Gray Cover, Black Base

**Temperature Range:** 

Up to 115°C (239°F)

Flammability Rating:

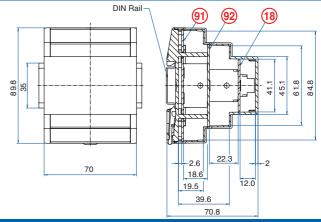
UL94 V-O

Color:

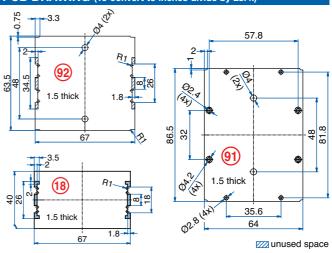
Part Number	Туре	Description	PCB Connection
91.830	KU4189B	Without	None
		Terminals	

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M





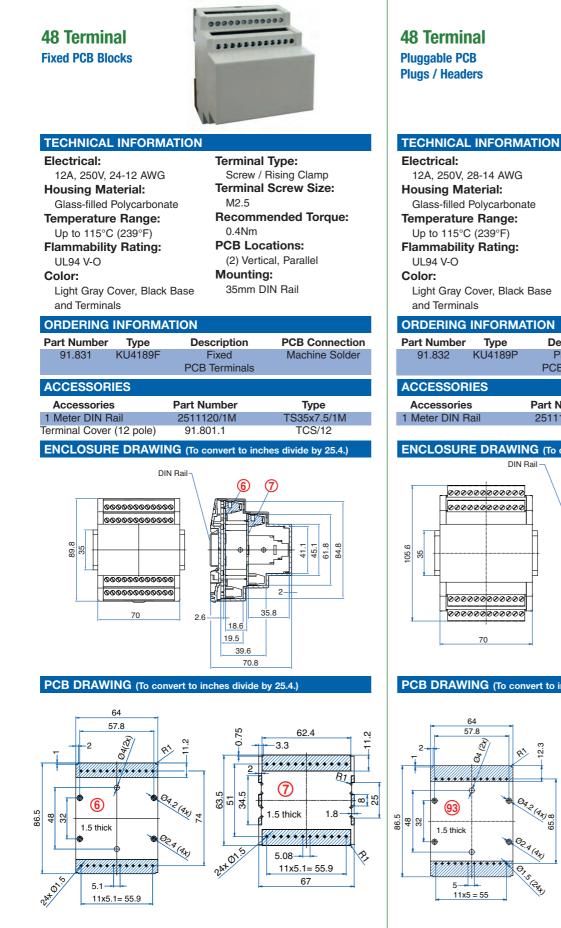
PCB DRAWING (To convert to inches divide by 25.4.)



# ltech

PCB Connection

Machine Solder



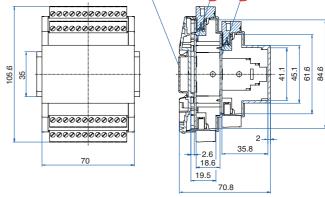
**Terminal Type:** Screw / Rising Clamp **Terminal Screw Size:** M2.5 **Recommended Torque:** 0.4Nm **PCB Locations:** (2) Vertical, Parallel Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

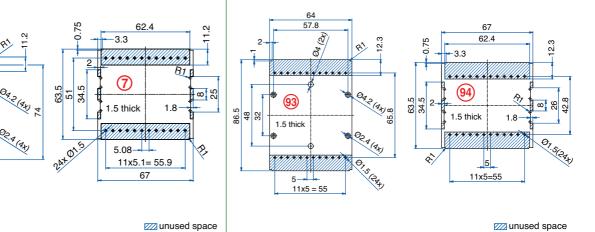
Туре Description KU4189P Pluggable **PCB** Terminals

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M





PCB DRAWING (To convert to inches divide by 25.4.)



## **105mm Enclosure** Without Terminals

# N Terminal Type:

#### **TECHNICAL INFORMATION**

Electrical: – Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base

Terminal Screw Size: Recommended Torque: PCB Locations: (3) Vertical, Parallel Mounting:

35mm DIN Rail

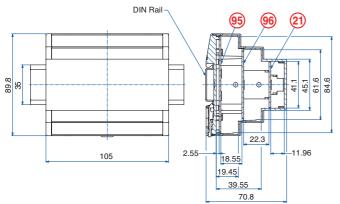
#### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection
91.840	KU4190B	Without	None
		Terminals	
ACCESSOR	IES		
Accessories	6	Part Number	Туре

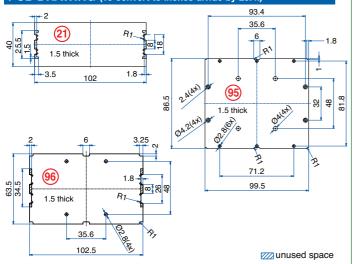
AccessoriesPart Number1 Meter DIN Rail2511120/1M

**TS35x7.5/1M** 

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)





PCB Connection

Machine Solder

#### ORDERING INFORMATION

Part NumberType91.841KU4190F

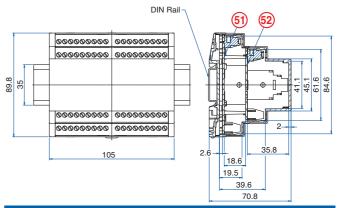
ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M
Terminal Cover (12 pole)	91.801.1	TCS/12

Description

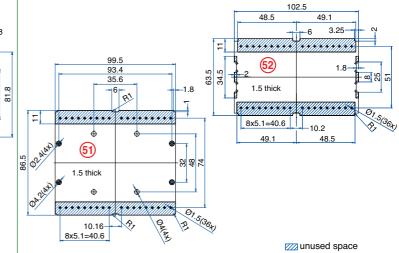
Fixed PCB

Terminals

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)



72 Terminal **Pluggable PCB** 

**Plugs / Headers** 

# Altech



#### **TECHNICAL INFORMATION**

Electrical:	
12A, 250V, 28-14 AWG	
Housing Material:	
Glass-filled Polycarbonate	
Temperature Range:	l
Up to 115°C (239°F)	
Flammability Rating:	I
UL94 V-O	
Color:	I
Light Gray Cover, Black Base and Terminals	
and reminals	

**Terminal Type:** Screw / Rising Clamp **Terminal Screw Size:** M2.5 **Recommended Torque:** 0.4Nm **PCB Locations:** (2) Vertical, Parallel Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

Part Number Туре 91.842 KU4190P

PCB Connection Description Pluggable Machine Solder **PCB** Terminals

Accessories 1 Meter DIN Rai

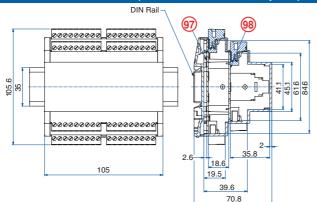
ACCESSORIES

Туре 35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

Part Number

2511120/1M



PCB DRAWING (To convert to inches divide by 25.4.) 99.5 93.4 35.6 12.25 6 1.8 R1 63.5 34.5 12.25 ę 5:98 92.4(AX) (97) Ś 32 48 35.8 (98) 8x5=40 1.5 thick 04.2142 1.5 thick Œ - | 6 |-94.5 102.5 5 , O, S(36+) 14/4/4/4/4/A 1\_OALAN 8x5 = 40 10 `?, 01.5(36) 3.25 P1 Ś 8 <u>8</u>, 26 -2 42.8 while a space



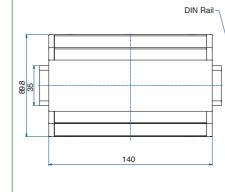
#### ORDERING INFORMATION

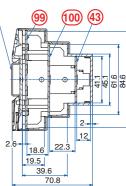
Color:

Part Number 91.850	<b>Type</b> KU4191B	Description Without Terminals	PCB Connection None
ACCESSOR	RIES		<u>_</u>

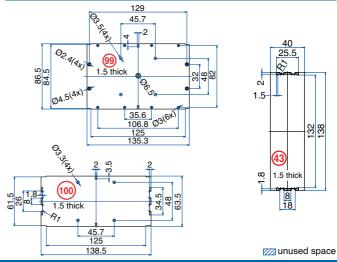
#### Accessories Part Number Туре 1 Meter DIN Rail 2511120/1M TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)





#### PCB DRAWING (To convert to inches divide by 25.4.)



# 96 Terminal **Fixed PCB Blocks**



#### **TECHNICAL INFORMATION**

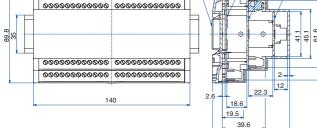
**Electrical:** 12A, 250V, 24-12 AWG **Housing Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 115°C (239°F) Flammability Rating: UL94 V-O Color: Light Gray Cover, Black Base and Terminals

**Terminal Type:** Screw / Rising Clamp **Terminal Screw Size:** M2.5 **Recommended Torque:** 0.4Nm **PCB Locations:** (2) Vertical, Parallel Mounting: 35mm DIN Rail

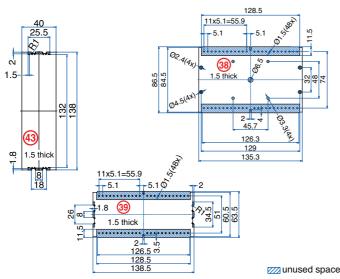
70.8

#### ORDERING INFORMATION

ONDENING						
Part Number	Туре	Descriptio	n PCB Connection			
91.851	KU4191	F Fixed	Machine Solder			
		PCB Termina	als			
ACCESSOR	ACCESSORIES					
Accessories	6	Part Number	Туре			
1 Meter DIN R	ail	2511120/1M	TS35x7.5/1M			
Terminal Cover	(12 pole	) 91.801.1	TCS/12			
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)						
		DIN Rail	38 39 43			
00000	0000000	0000000000000000				
000000	0000000	000000000000				



#### PCB DRAWING (To convert to inches divide by 25.4.)



**96** Terminal **Pluggable PCB Plugs / Headers** 

#### **TECHNICAL INFORMATION**

Electrical:	Terminal Type:
12A, 250V, 28-14 AWG	Screw / Rising Clamp
Housing Material:	Terminal Screw Size:
Glass-filled Polycarbonate	M2.5
Temperature Range:	Recommended Torque:
Up to 115°C (239°F)	0.4Nm
Flammability Rating:	PCB Locations:
UL94 V-O	(2) Vertical, Parallel
Color:	Mounting:
Light Gray Cover, Black Base and Terminals	35mm DIN Rail

#### **ORDERING INFORMATION**

Part Number Description Туре 91.852 KU4191P Pluggable

PCB Terminals ACCESSORIES

Accessories 1 Meter DIN Rail Part Number 2511120/1M

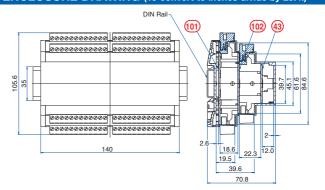
**PCB** Connection

Machine Solder

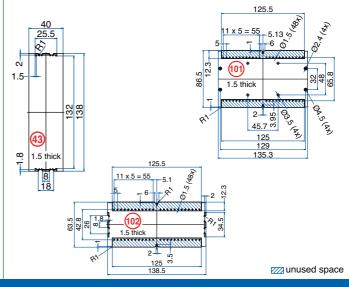
Туре

TS35x7.5/1M

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



# KO4300 Series



The KO4300 Series Enclosures feature high density double level terminals making them ideal for many electronic applications. They are small to medium in size ranging from 16 to 64 terminals. There are 4 widths available each having a short and tall version. Terminal styles are available in fixed scew terminals, pluggable screw terminals or pluggable spring clamp terminals.

#### MATERIALS

Housing Shell: Polycarbonate, 10% Glass Filled Terminal Housing: Polyamide, 40% Glass Filled Terminal: Tin-plated Steel (spring terminal: stainless steel) Standard Color: Light Gray

#### **TEMPERATURE RATINGS:**

Terminal Housing: 290°C (554°F) UL94VO Housing: 115°C (239°F) UL94VO

#### PROTECTION

KO4300 series enclosures have an IP20 rating (finger protected) and meet VBG4 and other European accident prevention requirements.

#### CONSTRUCTION

The KO4300 enclosure series housings are supplied as unassembled kits. Each kit consists of a housing base, terminal cover side parts, terminal blocks and a front plate. The double level terminal design keeps the enclosure width to a minimum freeing valuable DIN rail space. The terminals are machine solderable with right angle pins. Integral printed circuit board guides are molded into the housing base to help with proper board insertion and containment. Boards are mounted vertically in the enclosure, perpendicular to the DIN rail.

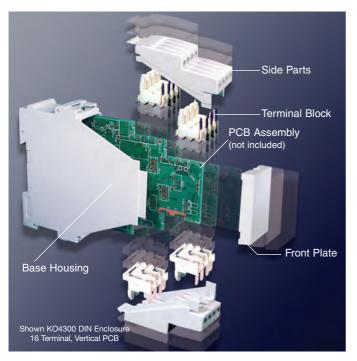
#### TERMINALS

Rising clamp screw terminals are used with the KO4300 series enclosures. Wires to be terminated are squeezed between the bottom of the rising clamp and the terminal strip for reliable, gas-tight connections. The terminals can be machine soldered to the board in the same step as the other components to save time and labor. All terminals have funnel shaped wire openings to eliminate wire fraying. The terminal screws can be turned with a flat tip or a #2 Philips screwdriver.

Pluggable screw clamp and spring clamp terminals are also available. A 3mm wide flat blade screwdriver should be used to open the spring terminal for wire insertion.

#### MOUNTING

The KO4300 series can easily be mounted on standard 35mm DIN rail by means of the integral mounting foot and DIN clip.



#### **CUSTOMIZATION**

Many custom options are available for the KO4300 series enclosures. Some of the available options are:

- Partial terminal loading
- Side ventilation slots
- Internal/External bus connections
- Machining of custom holes
- PCB grounding to the DIN rail
- RJ45 and DB9 openings in front plate

#### HOUSING ASSEMBLY

- Place all assemblies on a level surface
- Terminal blocks should be pre-assembled on the PCB
- Push the side parts over the terminal blocks ensuring that the guide pins of the terminal blocks slide into the holes of the side parts
- Snap the front plate onto the pre-mounted side parts
- Slide the PCB of the upper section into the guide groves of the base
- Slide the upper section into the base. Make sure that the wall areas overlap correctly and the guide element of the base slides in the mating recess of the base.
- Push the assembly completely together so that the clips on the side parts snap into the recesses in the base



#### **TECHNICAL INFORMATION**

Electrical:
16A, 300V, 22-12 AWG
Housing Material:
Glass-filled Polycarbonate
Terminal Block Material:
Glass-filled Polyamide
Temperature Range:
Up to 115°C (239°F), Housing
Up to 115°C (239°F), Housing 290°C (554°F), Terminals
290°C (554°F), Terminals

**Terminal Type:** Screw / Rising Clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (2) Vertical Mounting: 35mm DIN Rail

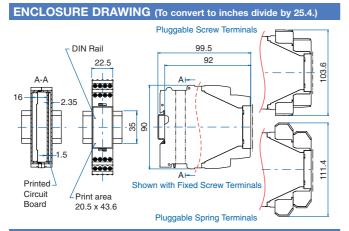
#### **ORDERING INFORMATION**

Part Number	Туре	Terminals	PCB Connection
90.900	KO4323	Fixed Screw	Machine Solder
90.903	KO4323stS	Pluggable Screw	Machine Solder
90.905	KO4323stK	Pluggable Spring	Machine Solder

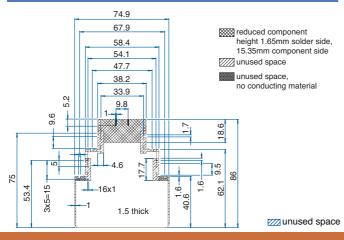
#### ACCESSORIES

Accessories 1 Meter DIN Rail Part Number 2511120/1M TS35x7.5/1M

Туре



#### PCB DRAWING (To convert to inches divide by 25.4.)





#### Part Number Туре Terminals **PCB** Connection 90.910 KO4303 Fixed Screw Machine Solder 90.913 KO4303stS **Pluggable Screw** Machine Solder 90.915 KO4303stK Machine Solder **Pluggable Spring**

#### ACCESSORIES

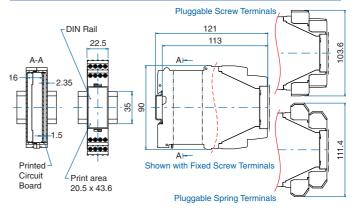
Accessories

1 Meter DIN Rail

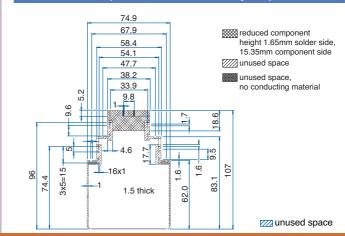
Part Number 2511120/1M

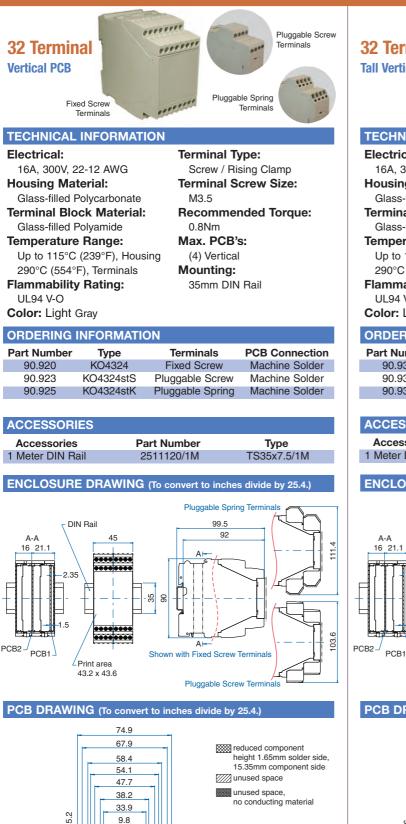
Type TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)





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9.5

82

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9.8

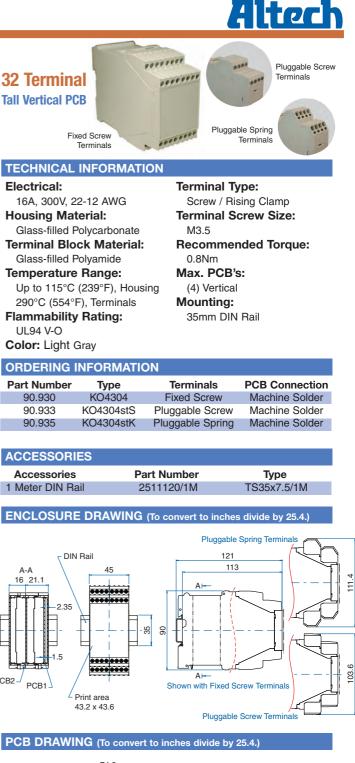
-16x1

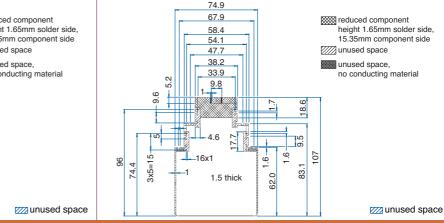
1.5 thick

9.6

75

53.4 3x5=15





# KO4300 Series



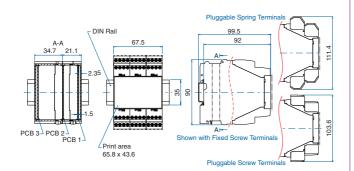
16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Terminal Block Material: Glass-filled Polyamide Temperature Range: Up to 115°C (239°F), Housing 290°C (554°F), Terminals Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Screw / Rising Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm Max. PCB's: (6) Vertical Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

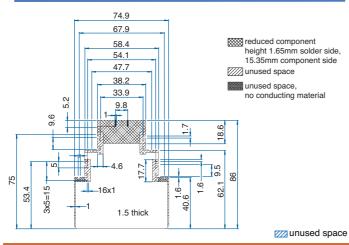
Part Number	Туре	Terminals	PCB Connection
90.940	KO4325	Fixed Screw	Machine Solder
90.943	KO4325stS	Pluggable Screw	Machine Solder
90.945	KO4325stK	Pluggable Spring	Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)





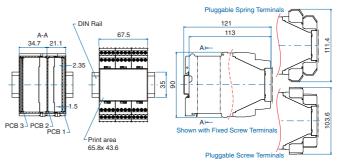
Part Number	Туре	Terminals	PCB Connection
90.950	KO4305	Fixed Screw	Machine Solder
90.953	KO4305stS	Pluggable Screw	Machine Solder
90.955	KO4305stK	Pluggable Spring	Machine Solder

#### ACCESSORIES

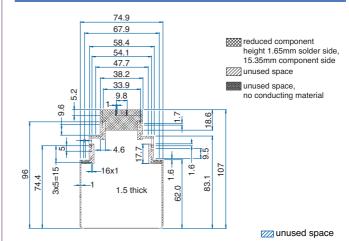
Accessories	Part Number
1 Meter DIN Rail	2511120/1M

er Type M TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



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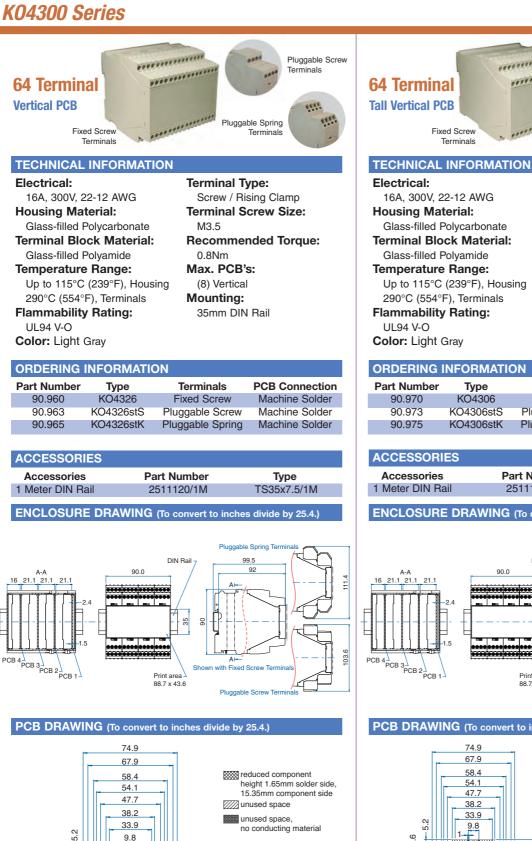
Pluggable Spring

Terminals

Pluggable Screw

REER

Terminals



18.6

9.5

82.1

9.1

6.1.6

6.

86

9.6

ß

-16x<sup>-</sup>

1.5 thick

75

53.4 3x5=1 **Terminal Type:** Screw / Rising Clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm Max. PCB's: (8) Vertical Mounting: 35mm DIN Rail

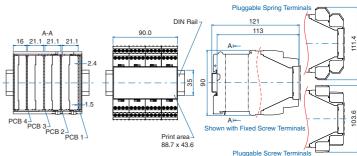
#### **ORDERING INFORMATION**

Terminals

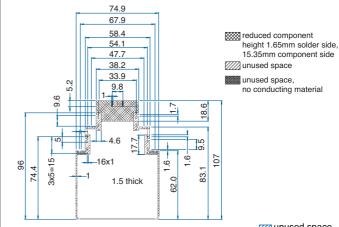
Part Number	Туре	Terminals	PCB Connection
90.970	KO4306	Fixed Screw	Machine Solder
90.973	KO4306stS	Pluggable Screw	Machine Solder
90.975	KO4306stK	Pluggable Spring	Machine Solder

ACCESSORIES		
Accessories	Part Number	Туре
1 Meter DIN Rail	2511120/1M	TS35x7.5/1M

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



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TERMINALS

Box clamp design terminal blocks are used with the KO4070 series enclosures. Wire(s) to be terminated are squeezed between the bottom of the clamp and the busbar for reliable, gastight connections. The terminal blocks can be machine soldered to the board in the same step as the other components to save time and labor. Enclosures with extended length pins are available to increase enclosure cavity for large components. All terminals have funnel shaped wire openings to eliminate wire fraying. The terminal screws can be turned with a flat tip or a #1 or #2 Philips screwdriver.

#### MOUNTING

The KO4070 series have integral mounting feet that snap onto standard 35mm DIN rail. They cannot be panel mounted.

#### MARKING

Silk screen or attach label to the face of the enclosure.

Economical, compact KO4070 enclosures are supplied as easy to assemble kits. They are ideal for housing I/O circuits, relays, timers and other small devices. Each kit consists of two housing half shells and 4 to 16 machine solderable terminals with standard or extended length pins.

#### MATERIALS

Housing Shell: Polycarbonate, 10% Glass Filled Terminal: Tinned Bronze Terminal Screw: Chromated Steel

#### **Temperature Rating:**

125°C (257°F) UL94 VO Standard Color: Light Gray

#### PROTECTION

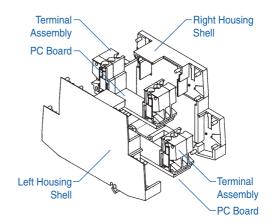
KO4070 enclosures have an IP20 rating (finger protected) and meet VBG4 and other European accident prevention requirements.

#### CONSTRUCTION

The KO4070 enclosures consist of two housing shells that snap together, and sectional, snap-together terminals. The maximum preassembled number of terminals are part of the enclosure kit. Potting is not recommended. Enclosures with removable center cover sections are available upon request.

#### **BOARD PLACEMENT**

Each enclosure can accept two boards, each up to 1.5mm (.0625 in.) thick, inserted vertically (parallel to the DIN rail) facing the terminals. These boards can be machine soldered to the terminals. Enclosure types KO4074 through KO4079, accept larger boards that can be screwed to the sidewalls of the housing shells (vertically, perpendicular to the DIN rail) using molded-in standoffs and 2 screws. Boards mounted on the sides can be 1mm (.04 in.) thick and require a wire jumper connection.



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#### **4** Terminal

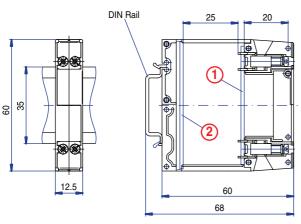


#### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (2) Vertical, Parallel Mounting: 35mm DIN Rail

#### ORDERING INFORMATION

Part Number	Туре	Description	PCB Connection		
91.001 KO4071		Standard Length Pins	Solder Pins		
ACCESSORIES					
Accessories	5	Part Number	Туре		
1 Meter DIN Rail		2511120/1M	TS35x7.5/1M		
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)					



#### PCB DRAWING (To convert to inches divide by 25.4.) $(\mathbf{f})$ (2) 5.4 Ø1.3 ļ • 1.5 thick 7.1 56 1.5 thick 8 4 • • • •

10

10

## **6** Terminal



#### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (2) Vertical, Parallel Mounting: 35mm DIN Rail

**PCB** Connection

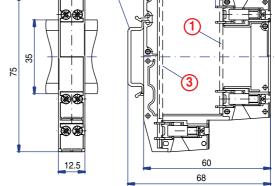
Solder Pins

#### ORDERING INFORMATION

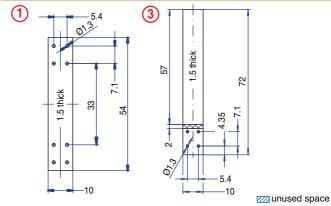
Part Number	Туре	Description
91.010	KO4072	Standard Length Pins

ACCESSORIES

Accessories Part Number Type 1 Meter DIN Rail 2511120/1M TS35x7.5/1M ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



PCB DRAWING (To convert to inches divide by 25.4.)



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#### **6** Terminal



#### **TECHNICAL INFORMATION**

**Electrical:** 16A, 300V, 22-12 AWG **Housing Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

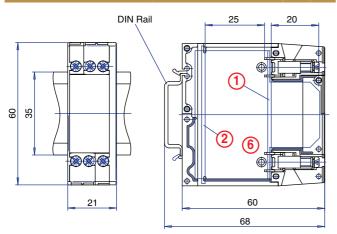
**Terminal Type:** Box Clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm **PCB Locations:** (1) Vertical, Perpendicular (2) Vertical, Parallel Mounting: 35mm DIN Rail

#### ORDERING INFORMATION

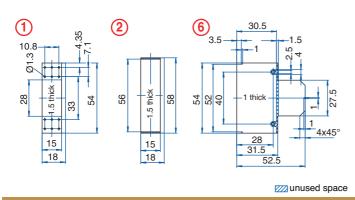
Part Number	Туре	Description	PCB Connection
91.020	KO4074	Standard Length Pins	Solder Pins

#### ACCESSORIES Accessories Part Number Туре 1 Meter DIN Rail 2511120/1M TS35x7.5/1M

#### ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



#### 8 Terminal



#### **TECHNICAL INFORMATION**

**Electrical:** 16A, 300V, 22-12 AWG **Housing Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

**Terminal Type:** Box Clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm **PCB Locations:** (2) Vertical, Parallel Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

Part Number	Туре	Description
91.030	KO4073	Standard Length Pins

**PCB** Connection Solder Pins

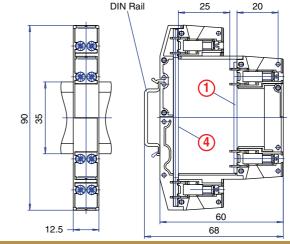
Туре

#### ACCESSORIES Accessories

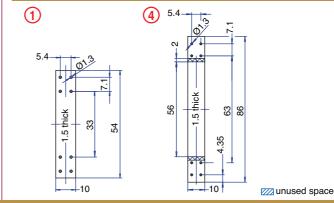
1 Meter DIN Rail

Part Number 2511120/1M TS35x7.5/1M

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)



# Altech

8 Terminal



#### **TECHNICAL INFORMATION**

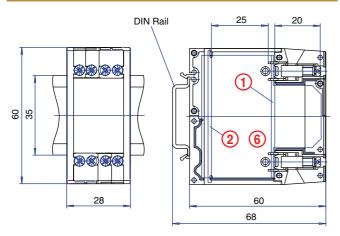
Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (2) Vertical, Perpendicular (2) Vertical, Parallel Mounting: 35mm DIN Rail

# ORDERING INFORMATION Part Number Type Description PCB Connection

Accessorie	S	Part Number	Туре
ACCESSOF	RIES		
91.040	KO4077	Standard Length Pins	Solder Pins

# 1 Meter DIN Rail 2511120/1M TS35x7.5/1M

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)



#### PCB DRAWING (To convert to inches divide by 25.4.)

1 6 () 30.5 3.5 thick 1.5 56 28 28 33 54 554 402 27 ŝ 1.51 thick 4x45 28 20 20 01.3 31.5 26 26 52 while a space

a	Terminal
J	IEIIIIIai



#### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (1) Vertical, Perpendicular (2) Vertical, Parallel Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

Part Number Type 91.050 KO4075 S

PCB Connection Solder Pins

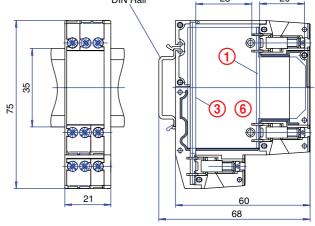
# 91.050 KO4075 Standard Length Pins Solder Pins ACCESSORIES

 Accessories
 Part Number
 Type

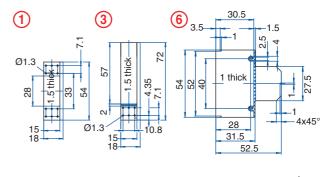
 1 Meter DIN Rail
 2511120/1M
 TS35x7.5/1M

 ENCLOSURE DRAWING (To convert to inches divide by 25.4.)
 DIN Rail
 25
 20

Description



#### PCB DRAWING (To convert to inches divide by 25.4.)



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## **12 Terminal**



#### **TECHNICAL INFORMATION**

**Electrical:** 16A, 300V, 22-12 AWG **Housing Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

**Terminal Type:** Box Clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm **PCB Locations:** (1) Vertical, Perpendicular (2) Vertical, Parallel Mounting: 35mm DIN Rail

TS35x7.5/1M

#### ORDERING INFORMATION

ACCESSORIES

Accessories

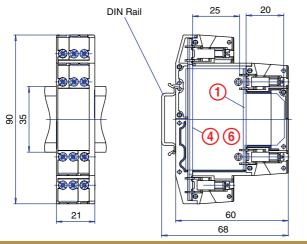
1 Meter DIN Rail

Part Number	Туре	Description	PCB Connection
91.060	KO4076	Standard Length Pins	Solder Pins

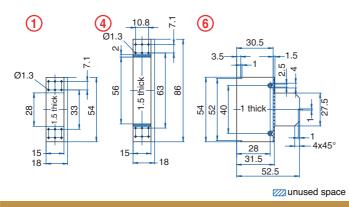
Part Number Туре

ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

2511120/1M



#### PCB DRAWING (To convert to inches divide by 25.4.)



#### 12 Terminal



#### **TECHNICAL INFORMATION**

**Electrical:** 16A, 300V, 22-12 AWG **Housing Material:** Glass-filled Polycarbonate **Temperature Range:** Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray

**Terminal Type:** Box Clamp **Terminal Screw Size:** M3.5 **Recommended Torque:** 0.8Nm **PCB** Locations: (2) Vertical, Perpendicular (2) Vertical, Parallel Mounting: 35mm DIN Rail

#### **ORDERING INFORMATION**

Part Number Туре

Accessories

1 Meter DIN Rail

91.070 KO4078

ACCESSORIES

Part Number

2511120/1M

Description

Standard Length Pins

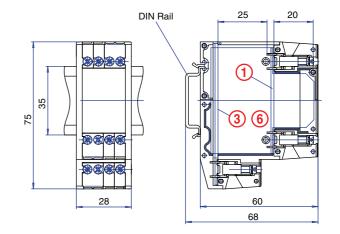
ENCLOSURE DRAWING (To convert to inches divide by 25.4.)

**PCB** Connection

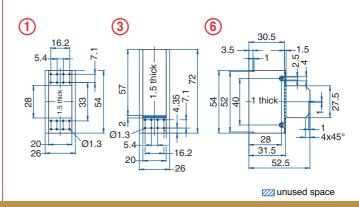
Solder Pins

Туре

TS35x7.5/1M



#### PCB DRAWING (To convert to inches divide by 25.4.)





**16 Terminal** 



#### **TECHNICAL INFORMATION**

Electrical: 16A, 300V, 22-12 AWG Housing Material: Glass-filled Polycarbonate Temperature Range: Up to 125°C (257°F) Flammability Rating: UL94 V-O Color: Light Gray Terminal Type: Box Clamp Terminal Screw Size: M3.5 Recommended Torque: 0.8Nm PCB Locations: (2) Vertical, Perpendicular (2) Vertical, Parallel Mounting: 35mm DIN Rail

ORDERING Part Number 91.080	INFORM Type KO4079	Description	PCB Connection s Solder Pins
ACCESSOR	IES		
Accessories 1 Meter DIN F	lail	Part Number 2511120/1M	<b>Type</b> TS35x7.5/1M
ENCLOSUR	E DRAWI	NG (To convert to inch	ies divide by 25.4.)
06 35			60 68
PCB DRAW	ING (To co	nvert to inches divide b	y 25.4.)
	Ø1.3 01.3	16.2 × 3.5- × 5.4 k 88 8 8 8 8 8 7 0 7 0 0 0 0 0 0 0 0 0 0 0 0 0	30.5 1.5 9 1.5 9 4 1.5 9 4 1.5 9 1.5 9 1.5 9 1.5 9 1.5 9 1.5 9 1.5 9 1.5 9 1.5 9 1.5 9 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5

20

26

20

26

`Ø1.3

4x45°

winused space

28

31.5

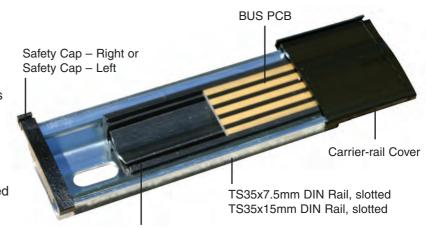
52.5

# In-Rail Bus System

The In-Rail Bus System is an extremely flexible bus system suitable for data transmission and power supply. The principle is a printed circuit board with 5 bus lines that is installed into a DIN rail. This bus system can carry 5A per trace with a voltage of up to 63V. Spring contact blocks can be installed in almost any DIN enclosure for connection to the bus system. Contact security is ensured due to the high spring force of the gold plated, double contact springs.

#### Features:

- Universal Bus system useable with most DIN enclosure types\*
- 5 Bus lines per Bus PCB
- 5A per bus, 25A max per PCB rail
- Quick and easy mounting in the DIN rail
- · Gold plated contact surfaces
- · Contact block springs with double contacts
- High spring force on the contact springs
- Max temperature 70°C
- Can be used for internal busing
- Standard DIN profiles, 7.5mm and 15mm
- UL approval
- 250 mm piece components can be supplied
- in lengths up to 1 meter



Carrier Profile for 7.5mm DIN Rail Carrier Profile for 15mm DIN Rail

#### **Ordering Information**

Part Number	Description	
91.905/250mm	Carrier Profile for 7.5mm DIN Rail, 250 mm length	
91.915/250mm	Carrier Profile for 15mm DIN Rail, 250 mm length	
91.925/250mm	BUS PCB, 250 mm length	
91.935/250mm	Carrier-rail Cover, 250 mm length	
91.945	Safety Cap – Right	
91.946	Safety Cap – Left	
91.955	Spring Contact Block	
2511120/1M	TS35x7.5mm DIN Rail, slotted, 1 meter length	
CA701-15/S	TS35x15mm DIN Rail, slotted, 1 meter length	



Spring Contact Block



\* Hole must be milled in enclosure base to accept spring contact block.



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No action arising out of any claimed breach of this Agreement may be brought by either party more than two (2) years after the cause of action has accrued.

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The foregoing states the entire liability of ALTECH to Customer arising from patent infringement.

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The remedies provided herein shall be cumulative and in addition to all other remedies provided by law or equity or under the Uniform Commercial Code.

**GOVERNING LAW** - This agreement will be governed by the Laws of the State of New Jersey.

**GENERAL** - This Agreement shall only become effective and binding when either (a) it has been accepted and executed by an authorized representative of ALTECH, or (b) the equipment has been shipped to Customer, with or without acceptance in writing hereon. Notice of acceptance is hereby waived by Customer. Customer hereby acknowledges receipt of a true and complete copy hereof.

No addition to or modification of any of the Terms and Conditions of Sale as they appear herein shall be binding upon ALTECH unless signed in writing by duly authorized representative of ALTECH in Flemington, N.J.

Typographical and clerical errors in quotations, orders and acknowledgments are subject to correction.

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ALTECH is not responsible for failure to fulfill its obligation under this Agreement due to causes beyond its control, or except as agreed herein.

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