SYSTEM INTEGRATION

◆ **Total flexibility**

◆ **Reduce wiring**

◆ **Simplify installation**

◆ **Special functions**

◆ **Signal conditioning**

◆ **HART® integration**

Customised backplanes

MTL provides complete design and manufacturing service for customised backplanes. Customised backplanes give the vendors and users of process control and safety systems the opportunity to integrate MTL4000/4700/HART® modules directly into their system architecture. As there are no hazardous-area circuits on the backplanes, customised versions can be produced without the need for IS certification, so simplifying design and lowering costs.

Universal custom backplanes

The 'universal' backplane allows a fast and economic approach to providing a custom interface. Where tight time schedules exist, the backplane can be installed to allow the panel building and wiring to be completed. The customised adapter card can then be plugged in at any time up to integrated test.

Adapter cards

Adapter cards already exist for many of the DCS companies. In addition there is a range of general purpose cards that offer reduced wiring for use with specific MTL modules. These are also available in left- and right-hand versions to ease panel wiring.

Connections

All the bus powered backplanes have plug-in power connections. The MTL4700 backplanes also have the high integrity earth connections required for Zener barriers.

DCS vendors/systems supported:

ABB Automation
  S100
  INFI90
ABB August
  SC300
Rockwell Automation
Bently-Nevada
Foxboro
  IA FBM & FBM2xx
Moore Products
  APACS
  Quadlog
Honeywell
  TDC
  Plantscape
Honeywell-SMS
  FSC
Simrad-Norge
Triconex
  Tricon V9
Yokogawa
  Centum XL, µXL
  CS1000, CS3000, R3
Yokogawa Industrial Safety Systems
  ProSafe

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MTL4840 SERIES BACKPLANES SPECIFICATIONS GENERAL PURPOSE VERSIONS

BPHM64 BACKPLANE

Capacity
1 x MTL4841 communications module
4 x MTL4842 HART® interface modules
NB: An MTL4841 module is needed for only one in every sixteen MTL4842 modules

Maximum power requirements
1.35W when equipped with:–
1 x MTL4841 communications module
4 x MTL4842 HART® interface modules

HART interface connectors
4 x DIN41651 20-way ribbon cables
(16 HART® signal connections + 4 common returns on each cable. Connections to HART® signals via screw terminal interface or custom backplane. Contact MTL for details.)

Weight (excl. modules and accessories)
296g approx.

HMU16/32

Capacity
1 x MTL4841 communications module
2 x MTL4842 interface modules

Power requirements, Vs
21 to 35V dc through plug in connectors

Maximum power requirements
1.2W when fully populated

Interface bus connectors
10-way ribbon socket

RS485 port
2.5mm^2 screw terminals

Mounting
Supplied fitted with DIN-rail (T-or G-section)

Weight (excl. modules and accessories)
330g

COMMON SPECIFICATION BPHM64 & HMU16

Power requirements, Vs
21 to 35V dc through plug-in connectors

Mounting
Supplied fitted with DIN-rail (T- or G- section) carrier

Interface bus connector
10-way ribbon socket

RS485 port
2.5mm^2 screw terminals

HCU16 HART® CONNECTION UNIT

Accuracy (HCU16-P250 only)
250Ω ±0.05%

Connectors
2.5mm^2 screw clamp terminals
3 terminals per channel
20-way flat cable (to BPHM64)

Weight
383g

HCU16AO HART® CONNECTION UNIT WITH FILTERS

Series impedance
dc<2Ω
HART® signal >240Ω

Connectors
2.5mm^2 removable screw clamp terminals
2 terminals per channel in groups of 4 channels
20-way flat cable (to BPHM64)

Weight
768g

COMMON SPECIFICATION HCU16 & HCU16AO
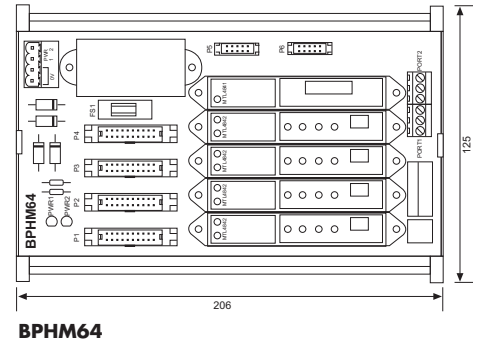
Capacity
16 channels

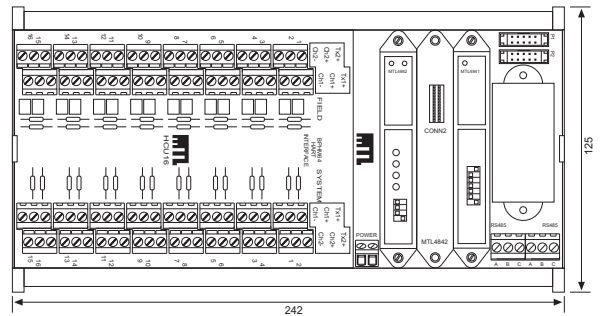**Isolation**
Channel to channel 50V dc

Mounting
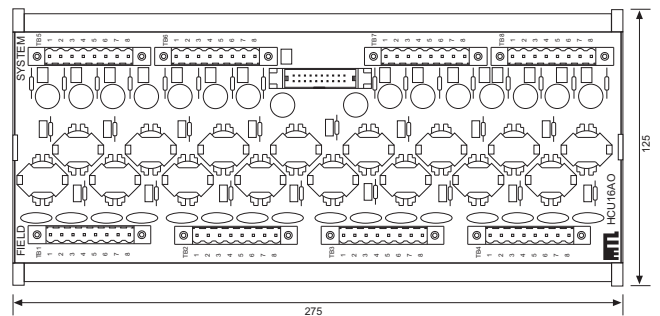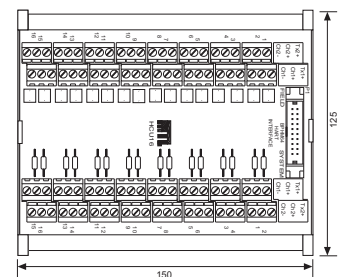Supplied fitted with DIN-rail (T- or G- section) carrier

DIMENSIONS (MM)

BPHM64

HMU16AI

HCU16AO

HCU16

MTL4840 SERIES BACKPLANES SPECIFICATIONS INTRINSIC SAFETY VERSIONS

BPMH16/BPMH16U/BPSH16/BPSH16-32 BACKPLANES

Capacity

16 x MTL4041A, MTL4041B, MTL4041P, MTL4046, MTL4046C, MTL4046P isolators (except BPSH16-32)
16 x MTL4044 (BPSH16-32 only)
1 x MTL4841 communications module
1 x MTL4842 HART® interface module (2 x MTL4842 on BPSH16-32)

NB: An MTL4841 module is needed for only one in every sixteen MTL4842 modules

Power requirements, Vs

21 to 35V dc through plug-in connectors

Maximum power requirements

1.35A (1.55A BPSH16-32)

Safe-area connectors

BPMH16: Elco 8016 38-pin male connector
BPMH16U: To customer's requirements
BPSH16: 2.5mm^2 screw terminals (2 terminals/module)
BPSH16-32: 2.5mm^2 screw terminals (4 terminals/module)

RS485 port

2.5mm^2 screw terminals

Accuracy

BPSH16-32R: 250Ω ±0.05% conditioning resistor

Weight (excl. modules and accessories)

350g approx.

ACCESSORIES

(for BPMH16/BPMH16U/BPSH16/BPSH16-32 backplanes)

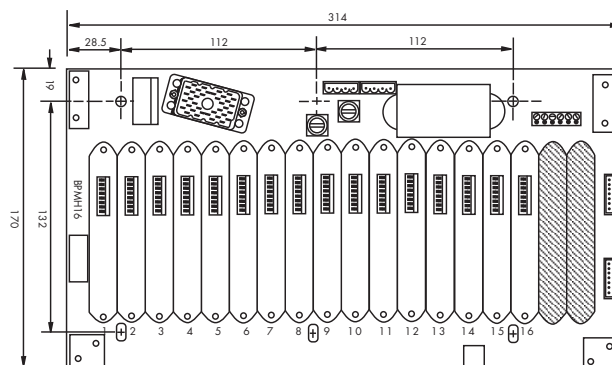|	
ERK18	Earth rail kit
TSK18	Tagging strip kit
VMPH16	Vertical mounting plate
SMS01	Surface mounting kit for backplanes, pack of 40
DMK01	DIN-rail mounting kit (T- or G-section) for VMPH16 mounting plate, pack of 40 16-way backplanes require 6
ELC38	Elco 8016, 38-way cable plug kit
FUS02	Fuse kit, protects MTL4841/4842, pack of 10
FUS16	Fuse kit, protects module positions 1 to 16, pack of 10

(for MTL4000)

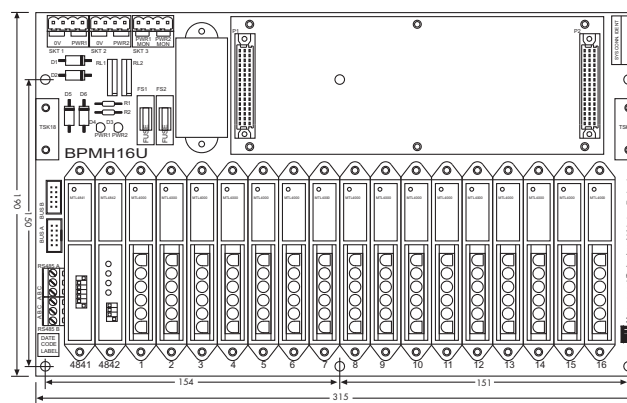|	
CCH01	Hazardous-area crimp connector
SCC01	Hazardous-area screw-clamp connector
CRC01	Large crimps, pack of 100
CRC02	Small crimps, pack of 100
CRT01	Crimp tool for CRC01
CRT02	Crimp tool for CRC02
CRR01	Crimp removal tool for CRC01 and CRC02

CUSTOMISED CONNECTION UNITS

MTL offers a range of general purpose and IS interfaces providing direct connection with control system I/O cables as well as HART® connectivity. For IS applications, MTL's universal backplanes, with a customised adapter card, give the user a compatible system connector complete with HART® interface. BPMH16U (see overleaf), BPM16U and BPM32 (see 'System Integration' section) backplanes may be used for IS signals. For general purpose signals, a range of custom HART® interface termination units are available for most DCS and PLC I/O cards. These replace the existing DCS termination units, saving space and allowing easy upgrading. Please contact MTL for details.
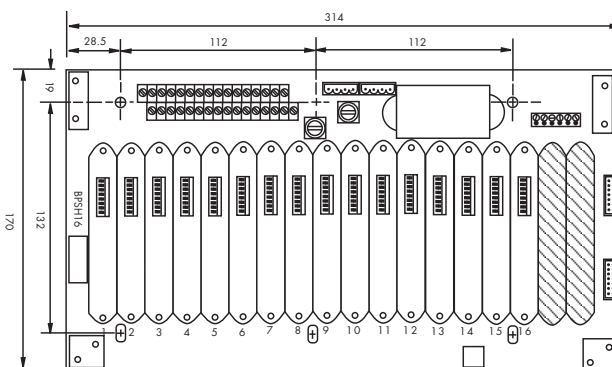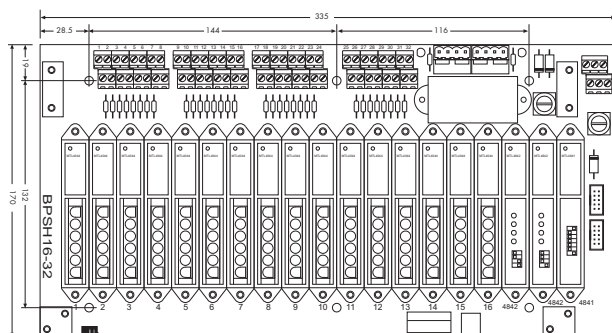
DIMENSIONS (MM)

BPMH16 backplane

BPMH16U backplane

BPSH16 backplane

BPSH16-32 backplane