Integrated Modular Controller/Antennas
COBALT HF™

FEATURES

Advanced RF electronic design permits longer read/write distance, and reduced sensitivity to the proximity of metal in the field for higher performance in difficult environments.

C-Macro™ command software, and advanced micro-processing reduce network traffic between reader and host.

Expanded choice of air protocols provides for a broad range of industrial applications.

Integrated controller/antenna design eliminates cabling restrictions for easier installation.

Plug 'n' Play allows effortless installation of additional Cobalt controllers on a network.

Five controller communication options support a variety of standards for flexible connectivity to host systems, including Ethernet, Industrial Ethernet, RS232, RS422, RS485, and USB.

Full range of antenna sizes will fit many industrial installation requirements.

COMPATIBLE TAGS

Escort Memory Systems HMS and LRP Series Tags

Philips Mifare, ICODE 1 ICODE SLI

Texas Instruments Tag-It

Infineon

SPECIFICATIONS

Communication Interfaces
Multi-drop 485: within Subnet16™ network; Point-to-point: RS232 and RS422, USB, Standard Ethernet and Ethernet IP, Modbus TCP

Air Protocols
ICODE 1, ISO 15693, ISO14443 A

Compliance
FCC , CE and TELEC

Enclosure rating
IP66

Operating Temperature Range
-20° to 49° C (-4° to 120°F)

Storage Temperature Range
-40° to 85° C (-40° to 185°F)

Vibration Resistance
IEC 68-2-6. Test FC 1.5mm, 10 to 55 Hz, 2 hours each axis

Shock Resistance
IEC 68-2-27. Half-sine 30 G, 11ms, 3 shocks per axis

Humidity
100% non-condensing

Dimensions
See page 2

Connectors
M12 (IP66 rating)

Voltage Rating
10-30 VDC

Power Consumption
12W

RF Power
1,000 mW

LEDs
8 LED's indicating power, communication, read/write activity, network address and error codes

Rugged, highly connected Cobalt HF™ RFID systems give integrators fast, low cost RFID readers and tags for the factory floor. With read/write ranges from 2" – 24", the Cobalt HF™ family offers the most complete connectivity of any system available including Ethernet, Ethernet IP, Modbus TCP and serial connections. A microprocessor architecture used by all Cobalt HF™ family products accommodates advanced automation features such as C-Macros™, plug'n'play hardware replacement and modular system expansion. Rugged IP 66 construction insures reliable operation inside harsh industrial environments,

RFID systems stream increasing amounts of data to factory hosts over high speed industrial networks often overloading plant floor networks. Escort Memory Systems landmark Cobalt HF™ product allows the factory integrator to unload the network by driving decision making down to the RFID reader level. Using a simple programming tool (C-Macro™), integrators and endursers apply simple rules for handling RFID data at the local level.

Eight LED's give quick visual information on Cobalt HF™ operations. Rugged connectors insure trouble free operation inside the industrial environment for critical applications such as machine control, work-in-progress and other factory automation applications.

RFID AT WORK™

APPLICATIONS

Material Handling
Sortation Systems
Work-in-Progress
Monitoring
Quality Control
Conveyer Lines

NOTE: Total Trunk Length not to Exceed 300m.

To 100~240 VAC

Alternate Power Source Tap Point for Long Trunk Networks 24VDC

TO NODE 3-NODE 16

⑧ 5X   ⑥ 3x*   ⑨ Termination Resistor

④* 2M MAX LENGTH

⑤* 2M MAX LENGTH

⓪ 3x HF-ANT-XXXX

HF-CNTL-485

① 3x

3-CONDUCTORS STRANDED WIRES WITH OVERALL SHIELD

② GWY-01-IND-01 Gateway

TO 100~240 VAC

TO TCP/IP HOST

Power Supply 24VDC
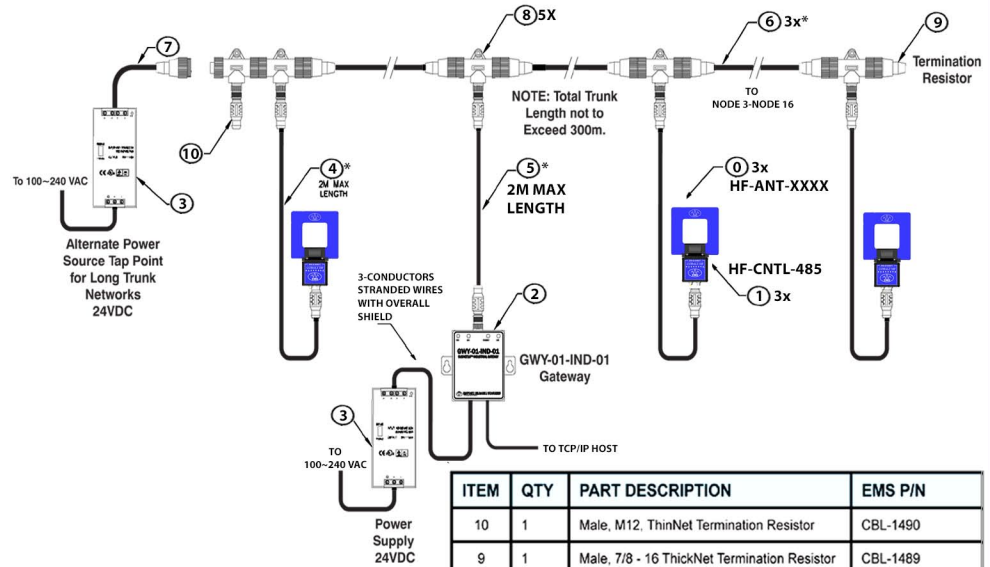
ITEM	QTY	PART DESCRIPTION	EMS P/N
10	1	Male, M12, ThinNet Termination Resistor	CBL-1490
9	1	Male, 7/8 - 16 ThickNet Termination Resistor	CBL-1489
8	1 ~ 18	ThickNet/ThinNet Drop-T Connector	CBL-1485
7	1	Female/Bare Wire, ThickNet Trunk Cable	CBL-1495-XX
6	1 ~ 15	Male/Female, ThickNet Trunk Cable	CBL-1483-XX
5	1	Male/Male ThinNet Drop Cable	CBL-1481-XX
4	1 ~ 16	Male/Female, ThinNet Drop Cable	CBL-1480-XX
3	1	Power Supply, 120W, 24VDC, 5.0A MAX	00-1168
2	1	Gateway, Subnet16™, Industrial Ethernet	GWY-01-IND-01
1	3	**COBALT HF Series Controller, 485**	**HF-CNTL-485**
0	3	**COBALT HF Series Antennas**	**HF-ANT-XXXX**

XX = Length in Meters

POINT-TO-POINT ETHERNET NETWORK

HF-CNTL-USB/IND

CONNECTOR ⑪   ⑫

To Ethernet Host

TO 100~240 VAC

Power Supply 24VDC
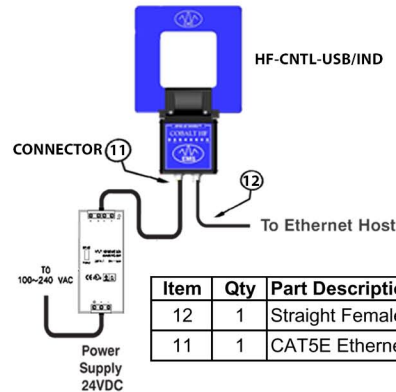
| Item	Qty	Part Description	EMS p/n
12	1	Straight Female M12 5-pin Field Mountable Connector	CBL-1487
11	1	CAT5E Ethernet cable for connection to CNTL-IND/TCP, 5m	CBL-1515-05

READ RANGES

TAG	LRP(P)125(HT)	LRP-P3858	HMS(P)125(HT)	HMS(P)150(HT)	LRP250(S) (HT)	LRP-L2666	LRP525HT(S)	LRP-L90140
HF-ANT-1010-01	152/6.0	228/9.0	28/1.1	50/2.0	241/9.5	241/9.5	360/14.0	not recommended
HF-ANT-2020-01	152/6.0	324/12.6	28/1.2	97/.08	324/12.6	247/9.8	394/15.4	476/18.8
HF-ANT-3030-01	203/8.0	432/17.0	30/1.2	127/5.0	432/17.0	330/13.0	520/20.5	635/25.0
HF-ANT-0750-0 *	63/2.5	86/3.4	15/0.6	44/1.8	120/4.8	105/4.1	127/5.0	178/7.0

(COBALT ANTENNA)

* HF-ANT-0750-01 tuned for a metal environment.

Typical ranges mm/in

RFID AT **WORK**™
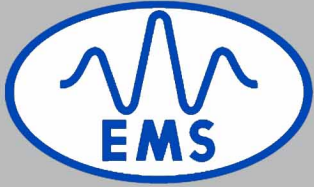
Integrated Modular Controller/Antennas
COBALT HF™

MODELS

Controllers (CNTL)
HF-CNTL-IND-01
HF-CNTL-485-01
HF-CNTL-422-01
HF-CNTL-232-01
HF-CNTL-USB-01

Antennas (ANT)
HF-ANT-0750-01
HF-ANT-1010-01
HF-ANT-2020-01
HF-ANT-3030-01

ACCESSORIES

HF-ANT-CBL-07
7m remote extension cable kit
CBL-1513
USB cable for CNTL-USB

CBL-1514
USB Connector for CNTL-USB

CBL-1515
Ethernet cable for CNTL-IND

00-1166
Power Supply 45W 24VDC
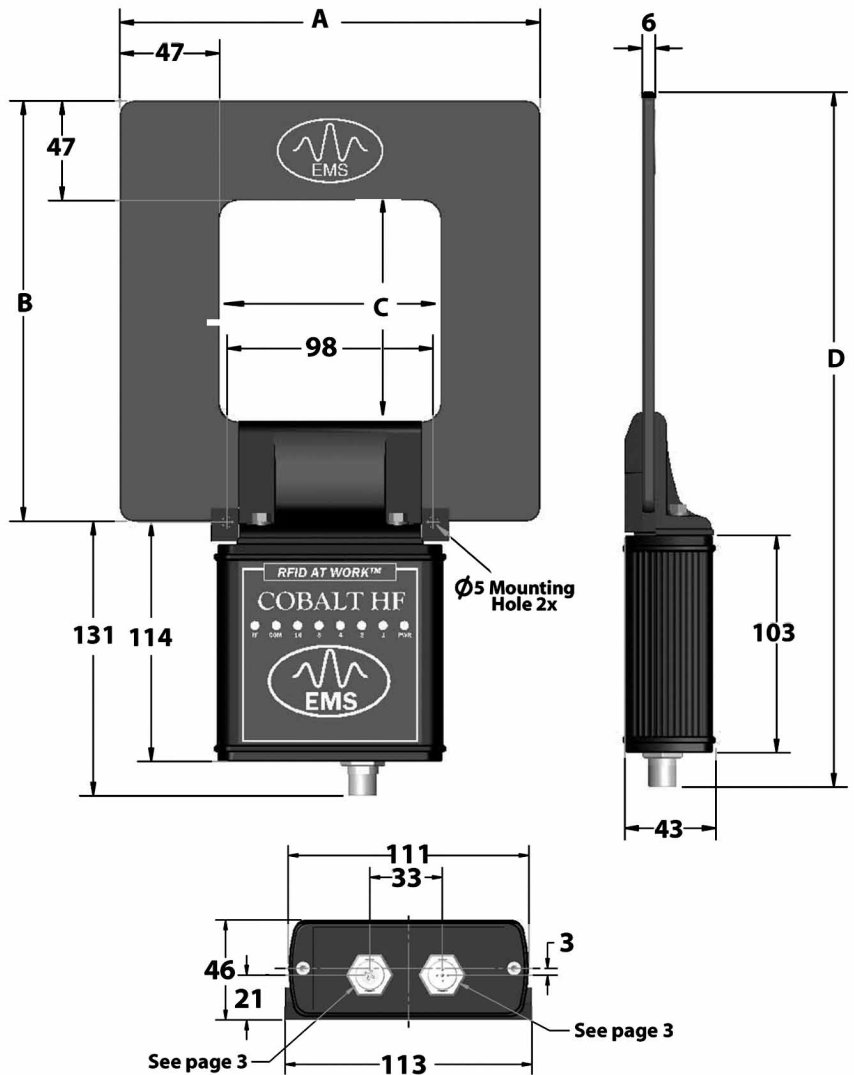1.88A Max

00-1167
Power Supply 100W 24VDC
4.17A Max

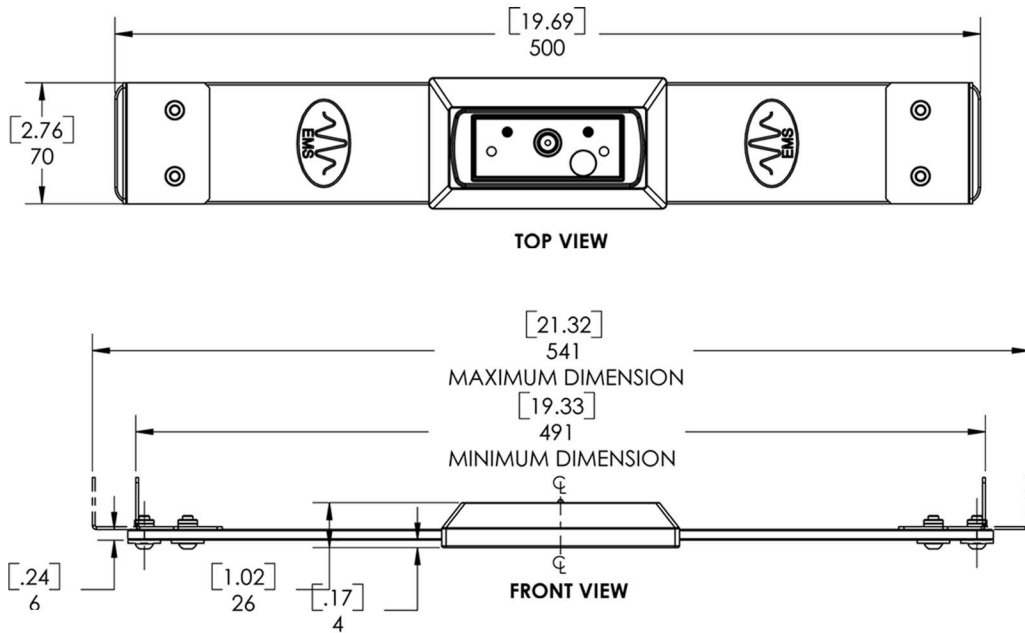00-1168
Power Supply 120W 24VDC
5.0A Max

MECHANICAL DRAWINGS

DIMENSION (mm)	A	B	C	D
HF-ANT-1010-01	100	112	0	242
HF-ANT-2020-01	200	200	106	331
HF-ANT-3030-01	300	300	206	421
HF-ANT-0750-01	SEE PAGE 4			

RFID AT WORK™

HF-ANT-0750-01 MECHANICAL DIMENSIONS
mm [inches]

[19.69]
500

[2.76]
70

TOP VIEW

[21.32]
541
MAXIMUM DIMENSION
[19.33]
491
MINIMUM DIMENSION

[.24]
6

[1.02]
26

[.17]
4

FRONT VIEW

TYPICAL READ RANGE CURVE, LRP525HTS WITH HF-ANT-0750-01 ANTENNA TUNED FOR METAL

HF-ANT-0750-01 READ RANGE CURVES

RANGE = $Ax^4 + Bx^3 + Cx^2 + Dx + E$

X = DISTANCE FROM ANTENNA CENTER

TAGS	CURVE VALUES, MILLIMETERS				
	A	B	C	D	E
LRP90140S	-3.00E-08	-5.00E-08	-0.0011	-0.007	227.26
LRP525HTS	-1.00E-08	0.00	-0.0006	0.00	129.58
LRP250S	-4.00E-08	5.00E-07	0.0008	0.0011	122.12
LRP-P3858S	-4.00E-08	-4.00E-07	0.0009	0.0199	87.10
LRP125HTS	-3.00E-08	0.00	0.0007	0.00	69.76
HMS150HT	-3.00E-08	7.00E-07	0.001	-0.0147	46.33
HMS125	Not Recommended				

HORIZONTAL DISTANCE FROM ANTENNA CENTER, MM.

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