

Catalog / Price List

January 1, 2007

I/O CONTROLLERS



I/O PLEXER

Accepts Mix of Analog and Digital I/O Modules: Provides remote analog and/or digital I/O over RS-232/422/485 serial communications links at baud rates up to 38.4KB. RS-232 port includes control signals. duTec instructions are 163% compatible with Optomux™protocol. Includes Local Control Function Blocks (LCFs) for remote and stand-alone controller operation and Speak-on-Event (SOE) by which remote events can initiate host alarms or SCADA scan cycles. Includes software and push-button selection of address and baud rate. Sockets for any mix of 16 analog or digital I/O modules. Optional 16, 32, 48 digital I/O line expansion. Built into a stainless steel case with a UL/CSA 90-264 Vac power supply. Dimensions: 5" x 3.5" x 17.25" (overall).

IOP-AD	16 sockets for any mix of analog and digital modules	Options available below	\$725.00
IOP-D	16 sockets for digital modules only	Options available below	530.00



I/O PLEXER Repeater

Accepts Mix of Analog and Digital I/O Modules: A bi-directional analog and digital signal repeater. Used in pairs (no external computer required) an input at one unit is an output at the other. Operates over RS-232/422/485 serial communications link at baud rates up to 38.4KB. Modem control signals provided for dedicated RS-232 communications. Includes software and push-button selection of address and baud rate. Sockets for any mix of 16 analog or digital I/O modules. Optional 16, 32, 48 digital I/O line expansion. Built into a stainless steel case with a UL/CSA 90-264 Vac power supply. Dimensions: 5" x 3.5" x 17.25" (overall).

IOP-RAD	16 sockets for any mix of analog and digital modules	Options available below	\$725.00
IOP-RD	16 sockets for digital modules only	Options available below	530.00
Option	Options available for I/O PLEXER and I/O PLEXER Repe	ater	
-		1640 1111	
/3+	Controller logic & connectors for adding up to 3 IOP-DE,	16 I/O digital expanders	\$125.00
IOP-DE	Expansion chassis with sockets for 16 digital only I/O modu		250.00
/B	Alternate power supply for operation from 9-18Vdc @ 25V	V	110.00
/C	Alternate power supply for operation from 18-36Vdc @ 25	5W	110.00
/F	Alternate power supply for operation from 36-72Vdc @ 25	SW .	110.00



BASIC I/O

Accepts Analog or Digital I/O Modules: Provides remote analog and/ or digital I/O over RS-422/ 485 serial communications links at baud rates up to 38.4KB. duTec instructions are 163% compatible with Optomux[™] protocol. AD versions include Local Control Function Blocks (LCFs) for remote and stand-alone controller operation. Includes software and push-button selection of address and baud rate. Available in 4, 8, or 16 module versions. Requires external 5 Vdc power supply. No options are available for these units.

BIO4	4 sockets for analog or digital modules (not both). Dimensions: 4" x 2.41" x 8.25"	\$295.00
BIO8	8 sockets for analog or digital modules (not both). Dimensions: 4" x 2.41" x 11.25"	330.00
BIO16	16 sockets for analog or digital modules (not both). Dimensions: 4" x 2.41" x 17"	370.00
BIO4AD	4 sockets for any mix of analog and digital modules. Dimensions: 4" x 2.41" x 8.25"	380.00
BIO8AD	8 sockets for any mix of analog and digital modules. Dimensions: 4" x 2.41" x 11.25"	425.00
BIO16AD	16 sockets for any mix of analog and digital modules. Dimensions: 4" x 2.41" x 17"	500.00
PS-BIO	BIO series power supply for operation from 85-264 Vac 120-370 Vdc @ 25W	75.00
PS-12	BIO series power supply for operation from 9.2 - 18 Vdc (12 Vdc Nominal) @ 25W	75.00
PS-24	BIO series power supply for operation from 19 - 36 Vdc (24 Vdc Nominal) @ 25W	75.00
PS-48	BIO series power supply for operation from 36 - 72 Vdc (48 Vdc Nominal) @ 25W	75.00



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Fax: 419-666-4702

I/O MODULES

Analog - Each analog 12 bit module includes signal conditioning, and its own independent transformer isolated power supply. This provides OMNI-ISOLATION, which is point-to-point, point-to-logic, point-to-power supply.



Input, Voltage	IV25M	0-25mVdc	\$120.00
input, voitage	IV50M	0-25111 Vdc 0-50mVdc	110.00
	IV100M	0-100mVdc	100.00
	IV250M	0-250mVdc	160.00
	IV500M	0-500mVdc	160.00
	IV1	0-1Vdc	100.00
	IV1-1	0-1V, 10M ohm Input Impedance	130.00
	IV5	0-5Vdc	80.00
	IV5B	+/-5Vdc, Bipolar	90.00
	IV10	0-10Vdc	80.00
	IV10B	+/-10Vdc, Bipolar	90.00
	IV30	0-30Vdc	90.00
	IVAC	0-140Vac	120.00
	IVAC-A	0-280Vac	125.00

Input, Current	II420	4-20mAdc	\$100.00
	II420S	4-20mAdc, Provides loop current into 500 ohms	100.00
	IIAC5	0-5 Aac	130.00
Input, Frequency	IDC5Z	0-10KHz, Bipolar, +/-500mV to +/- 32Vdc	\$130.00
input, Frequency	IF10K-B	300Hz-10Khz, Bipolar, +/-200mV to +/-50Vdc	130.00
	IF2.5K-L	0-2.5KHz, 2-50Vdc	150.00
	IF5K-L	0-5KHz, 2-50Vdc	150.00
	IF10K-L	0-10KHz, 2-50Vdc	150.00
Input, Temperature	ITCE	Thermocouple, Type E, 0° - 435°C	\$120.00
	ITCJ	Thermocouple, Type J, 0° - 700°C	120.00
	ITCJ-1	Thermocouple, Type J, -80° - 750°C	120.00
	ITCK	Thermocouple, Type K, -100° - 924°C	120.00
	ITCK-1	Thermocouple, Type K, -110° - 1250°C	120.00
	ITCR	Thermocouple, Type R, 0° - 960°C	160.00
	ITCR-1	Thermocouple, Type R, 0° - 1760°C	160.00
	ITCS	Thermocouple, Type S, 0°- 1034°C	160.00
	ITCS-1	Thermocouple, Type S, 0° - 1760°C	160.00
	ITCT	Thermocouple, Type T, -200° - 224°C	160.00
	ITCT-1	Thermocouple, Type T, -120° - 400°C	160.00
	ITCT-2	Thermocouple, Type T, 0°- 150°C	160.00
	ITP590	Temperature Sensor, Type 590, -188.4° - 150°C	90.00
	ITP590-1	Temperature Sensor, Type 590, -50° - 150°C	120.00
	ITR100	RTD 100 Ohm Pt., -50° - 350°C	135.00
	ITR100-1	RTD 100 Ohm Pt., 0° - 100°C	135.00
Output, Voltage	OV1	0-1Vdc, self-sourcing	\$125.00
Output, voltage	OV1	0-5Vdc, self-sourcing	125.00
	OV3	0-10Vdc, self-sourcing	125.00
	OV10	o 10 rac, self sourcing	125.00
Output, Current	OI420	4-20mAdc, no external supply required up to 275 Ohm. Greater load with external power supply	\$125.00



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I/O MODULES

Digital - Each module has 4000V photo isolation, UL recognition and CSA certification.



Input, Voltage	IAC5	90-140Vac-dc	\$13.00
	IAC5A	180-280Vac	14.00
	IDC5D	3-32Vdc	13.00
	IDC5NP	10-32Vdc; 15-32Vac, non-polarized	14.00
Output, Voltage	OAC5	24-140Vac, 3.5A	\$13.00
	OAC5A	24-280Vac, 3.5A	16.00
	OAC5A5	24-280Vac, 3.5A,normally closed (NC)	16.00
	ODC5	3-60Vdc, 3.5A	13.00
	ODC5A	4-200Vdc, 1.0A	24.00
Input, Contact	IDC5S	Dry Contact Sense Input, built-in isolated voltage source	\$55.00
Output, Contact	ODC5R	Relay, Form A, normally open (NO), 0.5A, Contact Rating 10VA	\$18.00
Input/Output, Test	TIO1	Digital input/output test module with field switch and LED	\$50.00
Power Supply	SPS-1	Sensor power supply, isolated 18-24Vdc, 30mA	\$50.00

SOFTWARE

Local Control Function Block Program Generator: A WindowsTMBased visual BASIC program to configure and download LCF Block Programs for remote stand-alone controller and logic operations. Unrestricted site license. Factory support provided to registered purchaser.

duTecDDE Driver: Server operates with any DDE compliant Windows[™] operating system (Windows95, 98 & NT). Also supports duTec Speak-On-Event (SOE) in which remote events (analog or digital) can initiate a SCADA scan. Unrestricted site license.

User Manuals: I/O PLEXER Hardware User Manual

Basic I/O Hardware User Manual Repeater Hardware User Manual duTec Industry Standard Protocol Manual

BM-485 User Manual

The above listed software and user manuals are included free of charge on CD with each I/O Plexer purchase.

SUPPORT PRODUCTS

Cables	IODNI AT	Cable 1/O DI EVED 46 AT DC 222 (2)	¢40.00
Cables	IOPN-AT	Cable, I/O PLEXER to AT RS-232, 6'	\$40.00
	IOPM-RT	Cable, I/O PLEXER to Radio/Telephone Modem, RS-232 with RTS, CTS, 6'	50.00
	CE24	Cable, I/O PLEXER to Digital Expander, 18"	15.00
Fuses	FMP-06	Plug-in fuse, 0.062A, Pack of 10	\$35.00
	FMP-1	Plug-in fuse, 1.0A, Pack of 10	35.00
	FMP-3	Plug-in fuse, 3.0A, Pack of 10	35.00
	FMP-5	Plug-in fuse, 5.0A, Pack of 10	35.00
Support CD	UM-CD	Manual / Software CD Contains all related documentation, drivers and software for your I/O Plexer	\$50.00



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COMMUNICATION

BAUDMASTER[™] Provides isolation for serial communication circuits; converts RS-232 to RS-422/485 and automatically controls RS-485 transmitter-enable independent of baud rate, to 115KB without software or jumpers. Stainless steel enclosure. Operates from 9-12Vac-dc wall adapter. To meet European CE import requirements the BAUDMASTERCE version must be powered by a duTec wall-plug adapter with included ferrite ring.



BM-100	BAUDMASTER	\$165.00
BM-100CE	BAUD MASTER CE version	175.00

Specifications		Connections			Typical Applications
Isolation	1200V, Equipment-to-Line-to-Power	Equipment Side: RS-232		DB9F	Isolators/ Converters
Baud Rates	Up to 115K baud	RS-422/485		#16 screw terminals	Range Extender
Range	4,000 feet (1220 meters) @ 38.4Kbaud, with 24 AWG twisted pair	Line Side: RS-422/485 Termination Resistors		#16 screw terminals Not included	Short Haul Modem Troubleshooting Tool
Drive	Up to 32 RS-422/485 receivers	Biasing Resistors	,	10ΚΩ	Y Networks
Compliance	CE, FCC Class A	Power: Wall-plug adapter		Power Jack, 0.1" dia.	Multipoint Networks
Power	9 - 24 Vac/dc @ 170 mA nominal	Direct		#16 screw terminals	BaudMaster to
Enclosure	Stainless Steel; weight 11 oz. (308 grams)	Indicators			I/O PLEXER Connections
	3"h x 5"w x 1"d (76mm x 127mm x 25mm)	Power Line Side Equipment Side	Rx, Tx Rx, Tx	Red LED Red LEDs Red LEDs	

BM 485-UIx	Multimode, Isolated RS-232/422/485	\$165.00
BM 485-CIx	Converter, Isolated RS-232 to RS422/485	150.00
BM 485-RIx	Repeater, Isolated RS-422/485 to RS-422/485	150.00
BM 485-UNx	Multimode, Non-Isolated RS-232 to RS-422/485	150.00
BM 485-CNx	Converter, Non-Isolated RS-232 to 422/485	135.00
BM 485-RNx	Repeater, Non-Isolated RS-422/485 to RS-422/485	135.00

x= P (parallel) or V (vertical) entry terminal block

Specifications

Isolation Hi-Pot: 2kV, Equipment-to-Line-to-Power-to-Chassis 2kV RMS for 1 Minute, 5.5kVDC for 1 Second Leakage Current: <50uA@2kV/60 Hz: 5.5kVDC

Baud Rates Up to 115K baud

Range 4,000 feet (1220 meters) @ 38.4Kbaud,

with 24 AWG twisted pair

Compliance CE (Pending Approval), FCC Class A,

CUL, UL Class II

Power 9 - 24 Vac/dc @ 170 mA Max

Terminal block or .1" Dia connector

Enclosure Stainless Steel 18 Ga.

4.6"h x 4.16"w x 1"d (117x 106 x 25mm)

Weight: 12.8 oz. (363g)

Operating Temperature -20 to +80° C

Indicators Equipment Side: +5 V, RxD, TxD Line Side: +5 v, RxD, TxD

RS-485 Automatic, patented ADFC™ technology Enable automatically controls data direction flow. RS-232 Supports TxD, RxD, DTR, DSR, RTS,

CTS, DCD Connector Db9 Male or Female DCE or DTE selectable.

Supports: RS-422, 4 or 2 wire RS-485, RS-485/422

Auto Detect

Input resistance: $12K-15K\Omega$ (1 unit load) Drive: Up to 32 unit loads (1 unit = $12K\Omega$) Connector: Pluggable terminal blocks (#16-24AWG)

Biasing resistors: Selectable $100 K / 1.2 K\Omega$ Terminating resistors: Selectable NONE,

AC or DC



Typical Applications

Isolators/ Converters

Range Extender

Short Haul Modem

Troubleshooting Tool

Y Networks

Multipoint Networks

BAUDMASTER to I/O PLEXER Connections

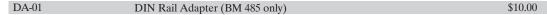


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BaudMaster[™] Accessories

BM-PS220	Wall-Plug Adapter, 220 VAC @3W	\$30.00
BM-PS120	Wall-Plug Adapter, 120 VAC @3W	15.00
BM-PSU	Wall-Plug Adapter, Universal 90-265 VAC @3W	40.00

Our OEM style Wall plug adapters have been selected to meet the requirements of our interface converters. Specifications: Output 9VDC@500mA(BM-PS120 & 220), Output 12VDC@850mA (BM-PSU) P5 Connector (5.5x2.1mm), Wire length Approx 6' (1.83 meter) UL, TUV, CE (BM-PSU&PS220), SA (BM-PS120) Approved.



Adapts BM485 Series Interface converter to install on a DIN rail for secure and convenient mounting. Includes mounting screws. Mounts to standard DIN rail profiles: 35 mm x 7.5 mm, 35 mm x 15 mm and 32 mm x 15 mm G-profile DIN Rail.



GC-9M	Gender Changer, 9 pin D-sub Male/Male	\$7.00

Used to convert DB9 Female to DB9 Male, low profile. Allows greater flexibility when installing using existing cables.

Specifications: PBT glass fiber reinforced body with UL 94 V-0 rating, gold plated contacts, 3A maximum contact current, #4-40 Hex screw fastener, -55 to 105° C.



CA-9F9M	Cable, DB-9 Serial Male/Female (for RS-232)	\$7.00

6' Serial Cable used for RS-232 communications, Male DB9 to Female DB9 terminations. Specifications: Beige molded PVC DB-9 termination, 4-40 extended screw fasteners, Contacts gold plated, nickel plated steel shell, PBT glass fiber insulation, Max current @ 500mA, Non-UL 28 AWG cable.



TERMS AND CONDITIONS

Price Policy	Prices are subject to change without notice. Prices for equipment shipped will be those in effect at time of shipment.
Taxes	Prices do not include any federal, provincial, local property, license, privilege, sales, use, gross receipts, value added, goods and services, or other like taxes which may now or thereafter be applicable. Such taxes are for the account of the purchaser.
Payment	Terms of payment are net 30 days from the date of invoice, subject to approved credit. Or you can purchase with Visa or MasterCard. The buyer shall be assessed one and one half percent (1.5%) per month service charge on any amount due and owing over 45 days. Foreign terms are pre-pay via wire transfer.
Ordering	Place all orders directly with an authorized Distributor or Sales Representative. In areas where there is no local sales outlet, place orders directly with duTec.
Delivery	The goods shall be delivered F.O.B. DuTec's plant in Northwood, Ohio, the buyer to pay all shipping and related expenses. Normally, domestic USA shipping charges are prepaid by duTec and added to the invoice. Shipments are via UPS, unless otherwise specified.
Returns	A restocking charge of 20% of list price will be applied on all products returned in unused condition within 60 days of shipment. Software products are non-returnable.
Upgrade	Products returned to factory for upgrades will be charged list price, non-discountable, plus \$75.00 for installation and testing.
Warranty	duTec warrants that the article delivered will be free from defects in materials and workmanship under normal use and service for a period of two (2) years from date of shipment from duTec. duTec will repair or replace at no charge to the customer any part that fails within the warranty period upon return to duTec's Service Center in Northwood, Ohio. Any parts determined by duTec to be defective as the result of abuse, attempts to repair, or misuse will be repaired at the expense of the customer. duTec will not be responsible for any consequential, incidental, or special damages. Contact duTec's Service Department at 800-248-1632 for a Return Material Authorization (RMA) number.



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