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Key Features

- Voice alarm reporting system in modular format
- Digital, Analog and PLC monitoring
- Expandable to over 500 alarm points
- Telephone and cellphone reporting, both can be used to provide redundancy
- Mobile radio and public address reporting
- E-mail reporting
- Local and Internet real-time alarm viewing
- Remote control

ProTalk[®]

Alarm Reporting Units

BE BARNETT ENGINEERING LTD.

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Modules

Main	B1285-M1	One required for each Link system, RS232 and RS485 program ports, Rj11 for local program phone, power supply monitor, power fail alarm, 2 status outputs
Telco	B1285-T1	Telco and mobile radio, 8 digital inputs, 4 control outputs
Wireless	B1285-W1	GSM cellphone, 8 digital inputs, 4 control outputs
Wireless	B1285-W2	CDMA cellphone, 8 digital inputs, 4 control outputs
PLC Module	B1285-P1	RS232, RS485 and Ethernet ports
Digital Input	B1285-D1	16 inputs, operated with either closure or voltage
Analog Input	B1285-A1	8 current loop inputs (4-20mA) and 8 voltage inputs

Specifications

Where the specification applies to a particular module or modules, the module type is indicated by letter.

Digital Alarm Inputs ^{W, T, D}	Normally open or normally closed. Can be configured for standard digital, watchdog, totalizer, interval or accumulator operation.
Analog Alarm Inputs ^A	4-20 mA loop and voltage (5, 10 or 30 volts)
PLC Alarm Inputs ^P	Modicon master or slave, RTU and TCP, Allen Bradley SLC500 and PLC5 master. Analog operation is with registers, digital operation is with coils
Control Outputs ^{W, T}	Form C latching
Power	+11 to +30 VDC, see individual module specifications for current draw
Environment	-30°C to +60°C
Programming Connection	DB9 - RS232, USB 2, Telco modem ^T , Cellular modem ^W

Programmable Features

Voice Messages	Site Name, Group Name, Alarm Name, Autonomous Name, user recorded, non-volatile. Can be recorded directly into the Link unit or by using the PC Voice Editor.
Alarm Groups	Alarms can be assigned into one of the 8 groups. All alarms in a group use the same directory when calling out.
Shifts	Up to 4 shifts can be used with automatic clock settings or up to 8 shifts can be used with manual DTMF code changes.
Interval Timer	Two stage timer controlling the interval between the last callout from a Directory and when the callout starts over at the beginning of the Directory.
Acknowledge Code	Stops the alarm reporting cycle when received. 1 to 7 digits, different codes can be used with the 8 Groups.
Interrogate Code	Forces annunciation of all active alarms. 1 to 7 digits, different codes can be used with the 8 Groups.
Access Code	Restricts remote access to only authorized users, 3 levels of security are available.
Telephone Numbers	32 Directories, each with as many as 20 numbers.
Autonomous Operation	Allows the communication modules to report a system failure without the Main module.
Callout Port Priority	Sets primary and backup port priority when both telco and wireless modules are used.
Temporary Acknowledge Time	Used to restart the alarm reporting after an acknowledge code has been received and the alarm has not been cleared.
Alarm Announcement	Selects whether all alarms or only new (unacknowledged) alarms are spoken.
Relay Voices	Selects whether the state of enabled relays is spoken or not.

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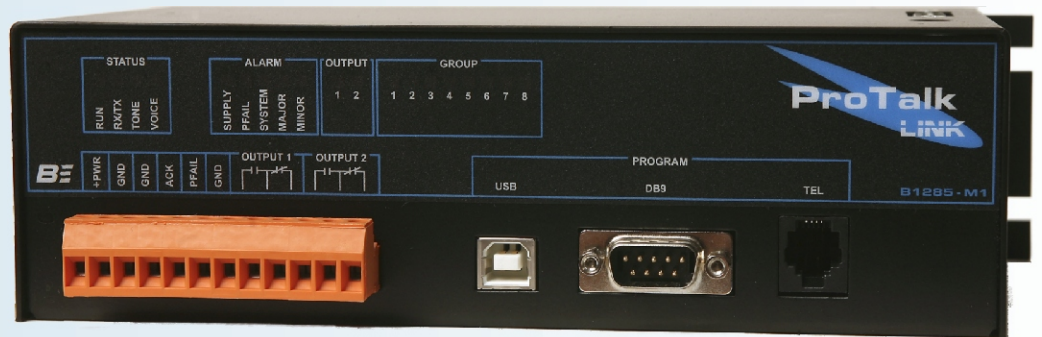
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Key Features

- Master control element for the Link system
- Gathers I/O status from all modules
- Coordinates alarm reporting through the communications modules
- Settings held in non-volatile memory
- Real-time monitoring through a PC

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Alarm Reporting Units

BE BARNETT ENGINEERING LTD.

Specifications

Digital Inputs	2 total, dedicated as power fail and acknowledge inputs, open or ground closure, impedance: 20K ohms, maximum + voltage: +30 VDC (note 1)
Relay Outputs	2 total, form C, 1 Amp at 30 VDC, used to indicate internal status (note 1)
Program Ports	DB9 RS232, DTE 57,600 baud, 1 stop, no parity, connects to a PC for configuration programming, code updating and monitoring USB2 Same function as the DB9 port, disables the DB9 when connected to a PC Telset program port, RJ11, connects to a DTMF telset for voice programming and limited configuration programming
Power	+11 to +30 VDC, 150 mA @ +12V, 100 mA @ 24V, with all indicators on Can be programmed as an analog alarm (note 1)
Physical	8.9" wide x 2.42" high x 4.32" deep, steel, powder coated matte black, mounting ears for panel installation
Front Panel	LED indicators and connector markings
Expander Output	DB15 female (top of case to additional expander)
Environment	-40°C to +60°C

Note 1 - Plug-in compression screw terminal strip.

Programmable Features

Power Supply Alarm	Analog alarm with fixed span of 0 to +30 VDC, connected to input power. High and low setpoints with adjustable hysteresis (1, 2, 4, 5, 8, 10, 12, 15 or 25%). Adjustable on and off delay times, equivalent to debounce, with 2 scales: 10 to 65530 msec in 10 msec steps or 1 to 65535 sec in 1 sec steps.
Power Fail Alarm	Digital alarm input, open or ground closure to alarm. 20K ohm impedance, +30 VDC max. Adjustable on and off debounce times, with 2 scales: 10 to 65530 msec in 10 msec steps or 1 to 65535 sec in 1 sec steps.
System Alarm	Internal: memory errors, real time clock error and expander failure.
Major/Minor Alarms	Alarms when an expander reports a major or minor alarm. Each expander has specific conditions that can be assigned to these alarms.
*for all alarms	Latched or momentary operation. 1 to 7 digit DTMF TX code can be used for signaling applications. Activated by assigning it to one of the 8 groups or disabled.
Status Relays	Each relay can be used to indicate one of the following: new alarm exists, any alarm exists, acknowledge received or error condition. Any of the 8 groups can be included.
Active Shift	Internal register indicating the current shift setting. Can be read or written through a PLC module.
Group Status	Internal registers indicating the status of the group: alarming, acknowledged or idle. Can be read through a PLC module.

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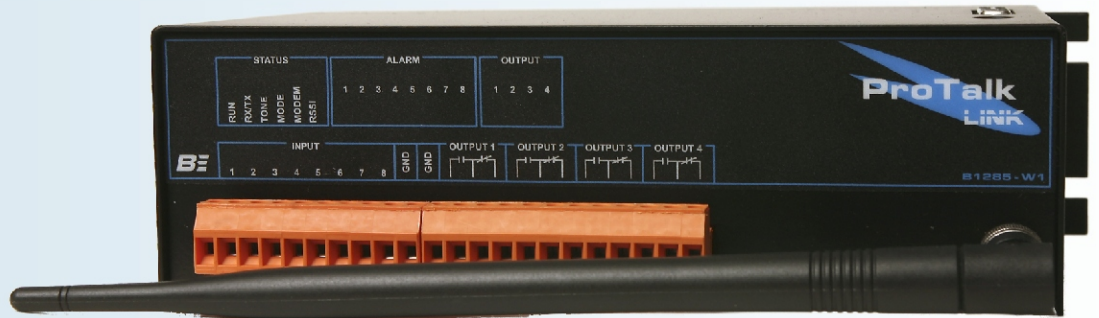
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Key Features

- Integrated GSM cellphone for alarm reporting
- E-mail alarm reporting
- Internet system status viewing
- Internet remote programming
- 8 digital inputs
- 4 control outputs
- Redundancy when used with a Telco module
- Failsafe operation without the Main module

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Alarm Reporting Units

BE BARNETT ENGINEERING LTD.

Specifications

Digital Inputs	8 total, ground closure operation, internally pulled up to +5 VDC. 1M ohm impedance (note 1)
Relay Outputs	4 total, form C, 3 Amp at 30 VDC (note 1)
Antenna Port	SMA female, 50 ohm
Current Consumption	150 mA @ 12V, 100 mA @ 24V, with all indicators on, add 250 mA @ 12V or 150 mA @ 24V when transmitting at full power
Physical	8.9" wide x 2.42" high x 4.32" deep, steel, powder coated matte black, mounting ears for panel installation
Front Panel	LED indicators and connector markings
System Connectors	DB15 male (bottom of case), DB15 female (top of case)
Environment	-30°C to +60°C

Note 1 - Plug-in compression screw terminal strip.

Programmable Features

Alarms	Each input can be independently programmed to operate in one of these modes: Digital - standard digital alarm Watchdog - alarms if not refreshed 2 time scales: seconds or minutes, 65535 maximum Refreshed by either or both polarity changes at the input Totalizer - counts changes at the input 5 scale settings are available Maximum count: 65535 Incremented by either or both polarity changes at the input Interval timer - measures duration of an active input state 2 time scales: seconds or minutes, 65535 maximum Measures either high or low input state Accumulator - accumulates duration of active input states 4 time scales: seconds, minutes, .1 hours or hours, 65535 maximum Measures either high or low input state
*for all alarms	Latched or momentary operation. Adjustable on and off debounce times, with 2 scales: 10 to 65530 msec in 10 msec steps or 1 to 65535 sec in 1 sec steps. 1 to 7 digit DTMF TX code can be used for signaling applications. Can be assigned to one of the 8 groups or disabled.
Major/Minor Alarms	Each of the following can be set as a major or minor alarm: relay failure, cellphone roaming, cellphone status unknown or low received signal strength.
Control Relays	Each relay can be independently programmed for on/off or timed operation. Remote control is by on and off DTMF codes, 1 to 7 digits in length. Timed types have 2 scales: 10 to 65530 msec in 10 msec steps and 1 to 65535 seconds.
Network Settings	Access Point Name (APN) server, APN user and APN password.
E-mail Settings	SMTP server, APN SMTP server and account address.
Wireless Data Code	1 to 7 digit DTMF code that starts the cellphone to begin switching from voice to data mode. On receipt of this code the user is prompted to enter a voice or SMS telephone number to receive the dynamic IP address that will be used for data transfer.

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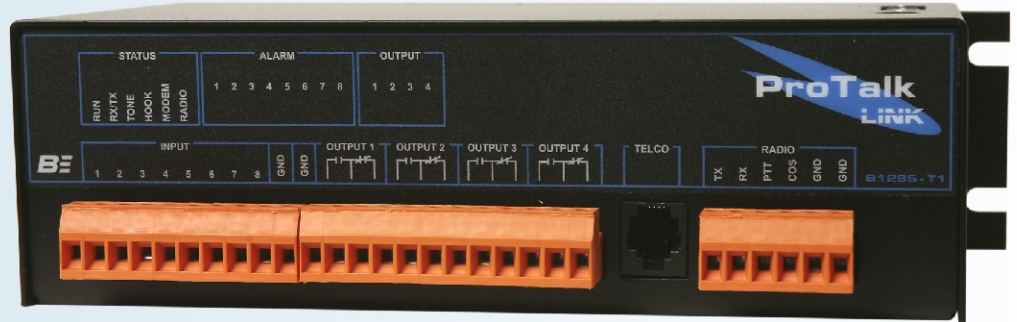
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Key Features

- Telephone port for alarm reporting
- Modem for remote programming
- Radio or public address port for alarm reporting
- 8 digital inputs
- 4 control outputs
- Redundancy when used with wireless modules
- Failsafe operation without the Main module

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Alarm Reporting Units



BARNETT ENGINEERING LTD.

Specifications

Digital Inputs	8 total, ground closure operation, internally pulled up to +5 VDC. 1M ohm impedance (note 1)
Relay Outputs	4 total, form C, 3 Amp at 30 VDC (note 1)
Telephone Port	RJ11
Radio Port	TX audio: 600 ohm, single ended, capacitively coupled, RX audio: 10K ohm, single ended, capacitively coupled, PTT: open collector, ground closure, 25V max, 100 mA max, COS: 10K ohm ground closure.
Current Consumption	150 mA @ +12V, 100 mA @ 24V, with all indicators on
Physical	8.9" wide x 2.42" high x 4.32" deep, steel, powder coated matte black, mounting ears for panel installation
Front Panel	LED indicators and connector markings
System Connectors	DB15 male (bottom of case), DB15 female (top of case)
Environment	-30°C to +60°C
Telco Modem	14,400 bps

Note 1 - Plug-in compression screw terminal strip.

Programmable Features

Alarms	<p>Each input can be independently programmed to operate in one of these modes:</p> <ul style="list-style-type: none"> Digital - standard digital alarm Watchdog - alarms if not refreshed <ul style="list-style-type: none"> 2 time scales: seconds or minutes, 65535 maximum Refreshed by either or both polarity changes at the input Totalizer - counts changes at the input <ul style="list-style-type: none"> 5 scale settings are available Maximum count: 65535 Incremented by either or both polarity changes at the input Interval timer - measures duration of an active input state <ul style="list-style-type: none"> 2 time scales: seconds or minutes, 65535 maximum Measures either high or low input state Accumulator - accumulates duration of active input states <ul style="list-style-type: none"> 4 time scales: seconds, minutes, .1 hours or hours, 65535 maximum Measures either high or low input state
*for all alarms above	<p>Latched or momentary operation. Adjustable on and off debounce times, with 2 scales: 10 to 65530 msec in 10 msec steps or 1 to 65535 sec in 1 sec steps. 1 to 7 digit DTMF TX code can be used for signaling applications. Activated by assigning it to one of the 8 groups or disabled.</p>
Major/Minor Alarms	Relay failure and no dial tone can be used as major or minor alarms.
Control Relays	Each relay can be independently programmed for on/off or timed operation. Remote control is by on and off DTMF codes, 1 to 7 digits in length. Timed types have 2 scales: 10 to 65530 msec in 10 msec steps and 1 to 65535 seconds.
Radio Audio Levels	Independent TX voice, TX DTMF, TX tone and receive: 0 to -20 dBm in 1 dBm steps.
Radio Control	PTT warmup: 0 to 65530 msec in 10 msec steps. COS polarity: open, closed or disable.
Telco Rings Before Answer	0 to 9 or never.
Modem Enable Code	1 to 7 digit DTMF code to put the telco line in data mode so the next incoming call is answered by the modem.

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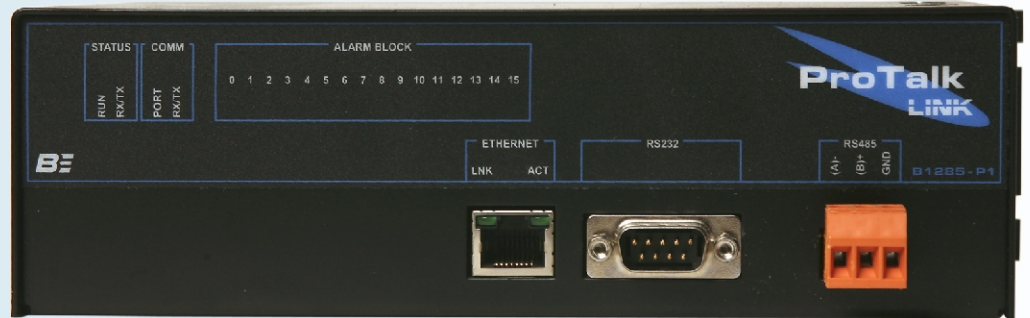
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Key Features

- Provides connectivity with Modicon and Allen Bradley PLCs
- RS232, RS485 and Ethernet ports
- Real-time monitoring
- E-mail capability
- PLC communication failure alarms
- Failsafe operation without the Main module

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Alarm Reporting Units

BE BARNETT ENGINEERING LTD.

Specifications

Serial Ports	RS232 (DTE) DB9 or RS485 selectable (note 1)
Network Port	Ethernet
Current Consumption	150 mA @ +12V, 100 mA @ 24V with all indicators on
Physical	8.9" wide x 2.42" high x 4.32" deep, steel, powder coated matte black, mounting ears for panel installation
Front Panel	LED indicators and connector markings
System Connectors	DB15 male (bottom of case), DB15 female (top of case)
Environment	-40°C to +60°C

Note 1 - Plug-in compression screw terminal strip.

Programmable Features

Digital Alarms	Alarm on either a 0 or 1.
Analog Alarms	Settings for binary maximum and minimum with the corresponding decimal maximum and minimum. Setting range for the decimal values is between -9999 and +9999, values outside of this range are adjusted using the Units setting. High and low setpoints with hysteresis (1 to 25%).
Comm Watch Alarms	One Comm Watch per unit ID. Poll Fail count in master mode determines if there is a failure; in slave mode it is the Poll Fail Timer, up to 65530 scaled in sec or min.
*for all alarms above	Latched or momentary operation. 1 to 7 digit DTMF TX code can be used for signaling applications. Activated by assigning it to one of the 8 groups or disabled.
Totalizers	An analog register can be interpreted as a totalizer (does not alarm).
Units	Applies units to analog alarms and totalizers using a three part selection: prefix: none, thousand, million, milli, centi, kilo, mega, giga measurement: none, cubic meters, cubic yards, cubic feet, PSI, pounds, meters, RPM, gallon, barrels, percent, parts per million rate: none, per day, per hour, per minute, per second
Coil Output	Used for setting/clearing a bit location in the PLC. 1 to 7 digit DTMF On and Off codes control the bit setting.
Major/Minor Alarms	Ethernet link failure and e-mail undeliverable can be set as a major or minor alarm.
Protocols	Modbus master or slave, RTU or TCP, Allen Bradley DF1, PLC5 or SLC500 master.
Port Settings	Baud rate: 300, 1200, 2400, 4800, 9600, 19,200, 38,400, 57,600 or, 115,200. Parity: even, odd, none. Connector: RS232 or RS485.
Communications Timers	(Master mode only) Poll Interval: up to 65530 msec in 10 msec steps. Poll Timeout: up to 65530 msec in 10 msec steps. Poll Retries: 1 to 5.
Ethernet Port	IP address, subnet mask, default gateway, e-mail server and enable.
Block Addresses	Settings for each Block: the PLC node, the first register address, the type of register: bit, analog, bit array, comm watch or unused.

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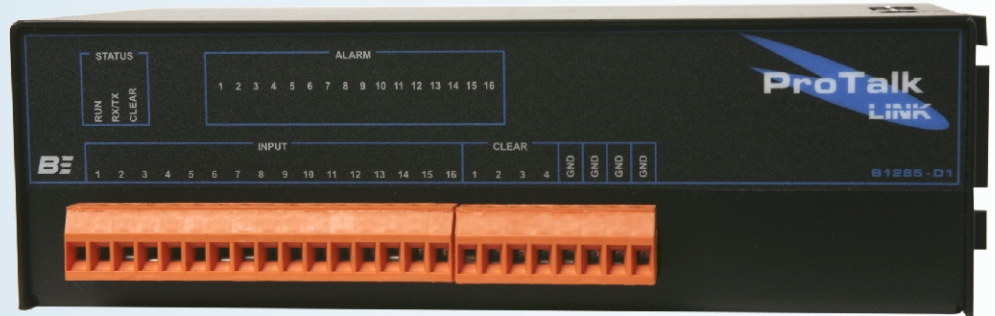
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Key Features

- 16 flexible digital inputs
- Supports watchdog, totalizer, accumulator and interval functions on each input
- Operates with voltage and ground closure formats

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Alarm Reporting Units

BE BARNETT ENGINEERING LTD.

Specifications

Digital Inputs	16 total, voltage or ground closure operation, voltage range: +5 to +30 VDC, 250K ohm impedance (note 1)
Clear Inputs	4 total, can be used to reset totalizers or accumulators (note 1)
Current Consumption	150 mA @ +12V, 100 mA @ 24V, with all indicators on
Physical	8.9" wide x 2.42" high x 4.32" deep, steel, powder coated matte black, mounting ears for panel installation
Front Panel	LED indicators and connector markings
System Connectors	DB15 male (bottom of case), DB15 female (top of case)
Environment	-40°C to +60°C

Note 1 - Plug-in compression screw terminal strip.

Programmable Features

Alarms	Each input can be independently programmed to operate in one of these modes: Digital - standard digital alarm Watchdog - alarms if not refreshed 2 time scales: seconds or minutes, 65535 maximum Refreshed by either or both polarity changes at the input Totalizer - counts changes at the input 5 scale settings are available Maximum count: 65535 Incremented by either or both polarity changes at the input Interval timer - measures duration of an active input state 2 time scales: seconds or minutes, 65535 maximum Measures either high or low input state Accumulator - accumulates duration of active input states 4 time scales: seconds, minutes, .1 hours or hours, 65535 maximum Measures either high or low input state
*for all alarms	Input format: open/ground, +voltage/ground or +voltage/ground voltage. Latched or momentary operation. Adjustable on and off debounce times, with 2 scales: 10 to 65530 msec in 10 msec steps or 1 to 65535 sec in 1 sec steps. 1 to 7 digit DTMF TX code can be used for signaling applications. Can be assigned to one of the 8 groups or disabled.
Major/Minor Alarm	Open input when programmed for +voltage/ground voltage format.

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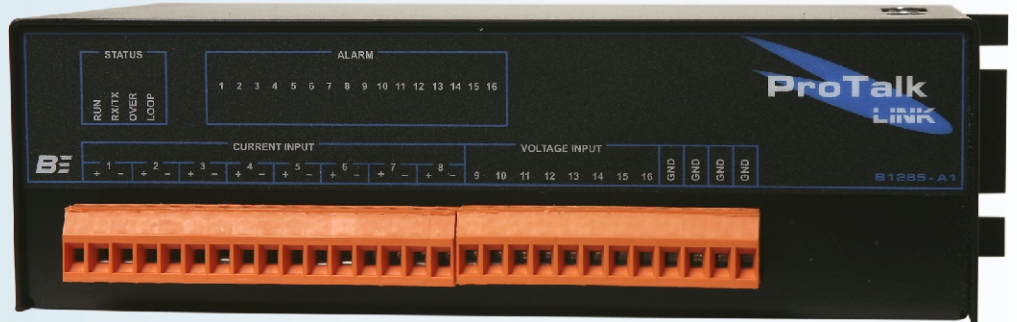
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Key Features

- 8 current loop inputs
- Open loop alarm on current inputs
- 8 voltage inputs with 3 range settings
- Over-range alarm on voltage inputs
- High and low alarms available on each input

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Alarm Reporting Units

BE BARNETT ENGINEERING LTD.

Specifications

Analog Inputs	8 current loop (4-20 mA) inputs Impedance: 100 ohms floating Maximum common mode voltage: +35 VDC 8 voltage inputs Single ended analog voltage referenced to ground Impedance: 110K ohms to ground Maximum input voltage: +35 VDC
Current Consumption	150 mA @ +12V, 100 mA @ 24V, with all indicators on
Physical	8.9" wide x 2.42" high x 4.32" deep, steel, powder coated matte black, mounting ears for panel installation
Front Panel	LED indicators and connector markings
System Connectors	DB15 male (bottom of case), DB15 female (top of case)
Environment	-40°C to +60°C

Note 1 - Plug-in compression screw terminal strip.

Programmable Features

Analog Alarms	Settings for binary maximum and minimum with the corresponding decimal maximum and minimum. Setting range for the decimal values is between -9999 and +9999, values outside of this range are adjusted using the Units setting. High and low setpoints with hysteresis (1 to 25%). Latched or momentary operation. Adjustable on and off debounce times, with 2 scales: 10 to 65530 msec in 10 msec steps or 1 to 65535 sec in 1 sec steps. 1 to 7 digit DTMF TX code can be used for signaling applications. Activated by assigning it to one of the 8 groups or disabled.
Voltage Inputs	Full scale settings of +5, +10 and +30 VDC
Units	Applies units to analog alarms and totalizers using a three part selection: prefix: none, thousand, million, milli, centi, kilo, mega, giga measurement: none, cubic meters, cubic yards, cubic feet, PSI, pounds, meters, RPM, gallon, barrels, percent, parts per million rate: none, per day, per hour, per minute, per second
Major/Minor Alarms	Open loop with a current input and over-range on a voltage input can be set as a major or minor alarm.

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Available September 2007

Key Features

- Integrated CDMA cellphone for alarm reporting
- SMS alarm reporting
- Remote system status viewing
- Remote programming
- 8 digital inputs
- 4 control outputs
- Redundancy when used with a Telco module
- Failsafe operation without the Main module

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Alarm Reporting Units

BE BARNETT ENGINEERING LTD.

Specifications

Digital Inputs	8 total, ground closure operation, internally pulled up to +5 VDC. 1M ohm impedance (note 1)
Relay Outputs	4 total, form C, 3 Amp at 30 VDC (note 1)
Antenna Port	SMA female, 50 ohm
Current Consumption	150 mA @ +12V, 100 mA @ 24V, with all indicators on, add 500 mA @ 12 V, 300 mA, @ 24 V when transmitting at full power
Physical	8.9" wide x 2.42" high x 4.32" deep, steel, powder coated matte black, mounting ears for panel installation
Front Panel	LED indicators and connector markings
System Connectors	DB15 male (bottom of case), DB15 female (top of case)
Environment	-30°C to +60°C

Note 1 - Plug-in compression screw terminal strip.

Programmable Features

Alarms	Each input can be independently programmed to operate in one of these modes: Digital - standard digital alarm Watchdog - alarms if not refreshed 2 time scales: seconds or minutes, 65535 maximum Refreshed by either or both polarity changes at the input Totalizer - counts changes at the input 5 scale settings are available Maximum count: 65535 Incremented by either or both polarity changes at the input Interval timer - measures duration of an active input state 2 time scales: seconds or minutes, 65535 maximum Measures either high or low input state Accumulator - accumulates duration of active input states 4 time scales: seconds, minutes, .1 hours or hours, 65535 maximum Measures either high or low input state
*for all alarms	Latched or momentary operation. Adjustable on and off debounce times, with 2 scales: 10 to 65530 msec in 10 msec steps or 1 to 65535 sec in 1 sec steps. 1 to 7 digit DTMF TX code can be used for signaling applications. Activated by assigning it to one of the 8 groups or disabled.
Major/Minor Alarms	Each of the following can be set as a major or minor alarm: relay failure, cellphone roaming, cellphone status unknown or low received signal strength.
Control Relays	Each relay can be independently programmed for on/off or timed operation. Remote control is by on and off DTMF codes, 1 to 7 digits in length. Timed types have 2 scales: 10 to 65530 msec in 10 msec steps and 1 to 65535 seconds.
Wireless Data Code	1 to 7 digit DTMF code that starts the cellphone to begin switching from voice to data mode. After this code has been received the next incoming call will be in data mode.