Description

The Hidex HXII Industrial Grade Modem is the most versatile model for Dial up or leased analog telephone line interconnects. The Hidex HXII56TM offers speeds up to 56Kbps over the analog switched telephone network and the HXII33TM is 33Kbps. They are temperature tested, rugged modems in a metal case designed for Industrial applications. Directly connected to RTU's, traffic controllers, variable message signs or any number of other applications, they communicate at 300 bps to 56 kbps over analog telephone lines. All HX models have High voltage surge protection on the telephone lines. The power required is 5VDC and includes a locking connector to prevent vibration disconnects. A range of DC power models are optional. Standard 115VAC adapter is provided.

Category	***Description***
Client-to-Server Data Rates	HXII56TM is V.92 and the HXII33TM is V.34 data rates
AGC Dynamic Range	43 dB
Client-to-Client Data Rates	33,600; 31,200; 28,800; 26,400; 24,000; 21,600; 19,200; 16,800;
Command Buffer	60 characters
DAA Isolation	1.5Kv r.m.s. or 2121 VDC at 250VAC 2Kv r.m.s.or 2828 VDC at 125VAC
Data Compatibility	(V.92), V.34 enhanced, V.34, V.32bis, V.32, V.22bis, V.22; Bell 212A and 103/113, V.21 & V.23
Data Compression	V.42bis, MNP 5
Data Format	Serial, binary, asynchronous
Diagnostics	Local analog loop, local digital loop, remote digital loop
Dimensions	5.12 x 3.50 x 1.0 inches
Error Correction	V.44, V.42 (LAP-M or MNP 2–4)
Flow Control	XON/XOFF (software), RTS/CTS (hardware)
Interface	RS232C via DB25F

Operating Voltage	HXIIxxTM 5 V DC ± 5% Absolute Maximum Supply Voltage: 5.5 V DC Option A 9 to 18 VDC via power connector. Option B 18 to 36 VDC via power connector. Option C 36 to 72 VDC via power connector.
Operational Temperature Range	–40 to +85° C ambient under closed conditions; humidity range 20–90% (non-condensing)
Power Consumption	Typical: 180 mA , Standby or Sleep Mode: 88
Receiver Sensitivity	–43 dBm under worst-case conditions
Serial Speeds	Serial port data rates adjustable to 300, 1200, 2400, 4800, 9600, 19,200, 38,400, 57,600, 115,200, and
Storage Temperature	–40 to +85° C
Transmit Level	–11 dBm (varies by country setting)

Approvals-modem module	**Safety Certifications** UL60950 cUL60950 EN60950 IEC60950 AS/NZS 60950:2000 CCC **EMC Approvals** FCC Part 15 Canadian EMC EN 55022 EN 55024 GB4943, GB9254

Intelligent Features

Fully AT command compatible
Leased-line operation (HXII56TM Only)
Sleep mode
Autodial, redial
Pulse or tone dial
Dial pauses
Auto answer
Adaptive line probing
Automatic symbol and carrier frequency during start-up, retrain,
and rate renegotiations
DTMF detection
Callback security
Distinctive ring
Voice record and playback
Call status display, auto-parity and data rate selections
Keyboard-controlled modem options
On-screen displays for modem option parameters
remote configuration
DTR dialing
phone number storage
flash memory for firmware updates
NVRAM storage for user-defined parameters

Compliance to Global Telephone Standards

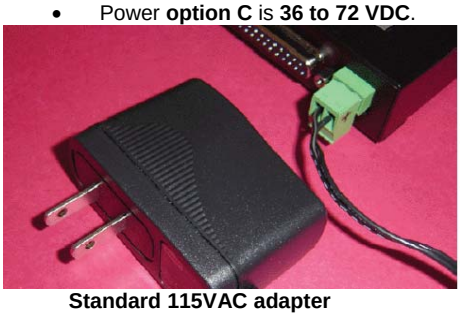
Hidex II modems have passed the following homologation:
FCC Part 68
FCC Part 15

IC-CS03
ETSI TS 103 021-1,2,3 v.1.1.2 2003-09 (originally CTR21)
ESD
(See Complete HXIIxxTM AT Commands for setting country codes)

External Power Sources

The native power for model HXIIxxTM is 5VDC to the power connector or via DB25 connector. The power options A, B & C are internal and changes the external power to be supplied via the 2 pin green locking connector. If no option is selected the 115VAC external supply is provided.

- Power **option A** is **9 to 18 VDC**.
- Power **option B** is **18 to 36 VDC**.
- Power **option C** is **36 to 72 VDC**.

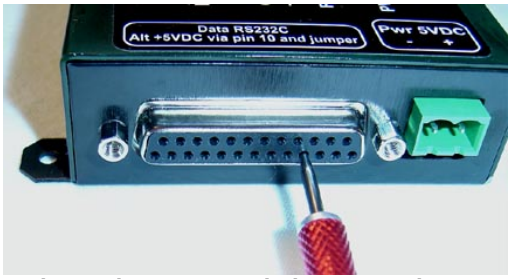


Standard 115VAC adapter

Power Connections

There are two optional methods of supplying power to the modem. Use the locking 2 pin power connector or via the RS232 cable. A slide switch on the side of the case selects which is used.

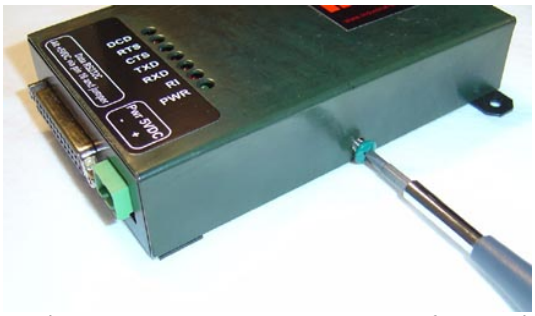
Included with each modem is the mating connector for the input power. Connect the external 5 VDC power source to the supplied connector with attention to the +/- polarity of the voltage source. CAUTION: NOTE THE POLARITY ON THE CONNECTOR LABEL.



Pin 10 plus 5VDC and pin 7 ground

Alternate power can be connected via the DB25 connector pin # 10 for +5VDC and pin # 1 or 7 for ground. To enable this option, move the switch away from the power connector.

Safety Ground Connection



Use the GREEN case cover screw to connect a safety ground wire if desired

Data Interface

Data is interfaced via a DB25 female connector.

Pin 1 GRD	Signal Ground
Pin 2 TXD	Transmit Data
Pin 3 RXD	Receive Data
Pin 4 RTS	Request to Send
Pin 5 CTS	Clear to Send
Pin 6 DSR	Data Set Ready
Pin 7 SG	Signal Ground
Pin 8 DCD	Carrier Detect
Pin 10	(Alternate power input +5VDC) use switch
Pin 20 DTR	Data Terminal Ready
Pin 22 RI	Ring Indicate

LED Indicators

DCD	Data Carrier Detect
RTS	Request To Send
CTS	Clear To Send

TXD Transmit Data
RXD Receive Data
RI Ring Indicate
PWR Power indicator (green)

Hardware Setup:

Setup Procedure:

1. Use the RS-232 cable to connect the DB25 connector (J1) on the modem to a PC serial port (Typically COM1).
2. Connect the RJ11 connector to a phone line.
3. Connect external power +5VDC to the power jack via 2 pin green connector or via alternate DB25 pins 10 & 7.

Hyper Terminal setup:

The modem can be tested as a standard serial data modem by connecting it to a personal computer or other data terminal equipment (DTE). Any standard terminal program such as HyperTerminal or ProComm running on a PC will communicate with the modem.

AT Commands

AT refers to the command prefix (attention sequence) that precedes each command to the modem. With the exception of A/ all commands must be preceded by AT and end with a carriage return <return>. Some useful AT commands commonly used are:

The A/ command instructs the modem to repeat the last command line. A command line termination character is not required for the execution of this command (that is, the command is executed as soon as the slash is typed).

AT Command Summary

Organization of AT Commands on the following pages: 1st, by the initial command character (&, +, %) 2nd, alphabetized by the second command character (Except for listing of **AT**).

Command Description

AT Attention Code
A Answer
A/ Repeat Last Command
B*n* Communication Standard Setting
Ds Dial
DS=*y* Dial Stored Telephone Number
E*n* Echo Command Mode Characters
F*n* Echo Online Data Characters
H*n* Hook Control

Command Description (con't)

I*n* Information Request
M*n* Monitor Speaker Mode
N*n* Modulation Handshake
O*n* Return Online to Data Mode
P Pulse Dialing
Q*n* Result Codes Enable/Disable
S*r*=*n* Set Register Value
S*r*? Read Register Value
T Tone Dialing
V*n* Result Code Format
W*n* Result Code Options
X*n* Result Code Selection
Z*n* Modem Reset
&C*n* Data Carrier Detect (DCD) Control
&D*n* Data Terminal Ready (DTR) Control
&E*n* XON/XOFF Pass-Through
&F*n* Load Factory Settings

&G*n* V.22bis Guard Tone Control
&K*n* Flow Control Selection
&L*n* Leased Line Operation
&P*n* Pulse Dial Make-to-Break Ratio Selection
&Q*n* Asynchronous Communications Mode
&S*n* Data Set Ready (DSR) Control
&T*n* Loopback Test (V.54 Test) Commands
&V Display Current Settings
&W*n* Store Current Configuration
&Zy=*x* Store Dialing Command
\A*n* Select Maximum MNP Block Size
\B*n* Transmit Break
\K*n* Break Control
\N*n* Error Correction Mode Selection
\Q*n* Flow Control Selection

Command Description (con't)

\T*n* Inactivity Timer
\V*n* Protocol Result Code
-C*n* Data Calling Tone
%A Adaptive Answer Result Code Enable
%B View Numbers in Blacklist
%C*n* Data Compression Control
%DC*n* AT Command Control
%E*n* Fallback and Fall Forward Control
%H*n* Direct Connect Enable
%R*n* Cisco Configuration
%S*n* Command Speed Response
$EB*n* Asynchronous Word Length
$D*n* DTR Dialing
$MB*n* Online BPS Speed
$SB*n* Serial Port Baud Rate
#CBA*n* Callback Attempts
#CBD*n* Callback Delay
 # CBF? Callback Failed Attempts Display

 # CBFR Callback Failed Attempts Reset
 # CBI*n* Local Callback Inactivity Timer
 # CBN*y*=*n* Store Callback Password
 # CBP*n* Callback Parity
 # CBR*y* Callback Security Reset
 # CBS*n* Callback Enable/Disable
#P*n* Set 11-bit Parity
#S*x* Enter Setup Password
#S=*x* Store Setup Password
+VDR=*x, y* Distinctive Ring Report
+++AT<CR> Escape Sequence
%%%ATMTSMODEM<CR> Remote Configuration Escape Sequence