QUICKTE 讯展
My Idea Your Value

I 30 SERIES

Hardware Installation Manual

INSTALLATION and OPERATION MANUAL

Release 1.0

Safety Precautions

Laser Warning

STRICT ATTENTION TO THESE PRECAUTIONS IS IMPORTANT FOR YOUR PROTECTION WHEN WORKING WITH FIBER OPTIC EQUIPMENT, SOME OF WHICH HAVE LASER DIODE EMITTERS.

Quickte Technology uses Class I and Class 3b lasers as fiber optic laser diode sources, which are inherently safe unless mishandled.

Use of optical measuring equipment or procedures other than those specified herein may result in hazardous radiation exposure.

The radiation from laser diodes is much more intense than other light sources radiation. This intense radiation can destroy your vision if you bypass proper safety procedures and practices.

As a general rule, do not look into the end of a fiber optic cable unless you are sure it is not connected into a system, or unless you are sure the equipment is OFF. Note that all Quickte Technology equipment with lasers are labeled accordingly.

Electrical Safety

The I30 SERIES equipment contains power supplies and other devices that are possible sources of electrical shock. Caution should be exercised when working around these components.

This equipment is to be installed only in restricted access areas (dedicated equipment rooms, equipment closets, or the like) in accordance with the articles 110-16, 110-17, and 110-18 of the National Electric Code, ANSI/NFPA 70."

Switch off power supply breakers for both A and B DC inputs before disconnecting

Equipment Handling

I30 SERIES shelf sometime can be heavy when fully-populated. For your physical safety and to prevent the possibility of damage to the equipment during installation, you should exercise caution when installing the I30 SERIES shelf. It is recommended that installers know and use proper lifting procedures as defined in the OSHA regulations.

Proper Attire

Personnel working around the I30 SERIES equipment should not wear loose or ill-fitting clothing around the equipment. This includes ties, over-size shirts, or dangling jewelry. Clothing items of these types can catch on jumpers and disconnect them, catch on system components and cause injury to you, or damage to the equipment.

Electro-Static Discharge Precautions

When working around I30 SERIES equipment, it is required that personnel as a minimum wear an ESD wrist strap attached to a properly grounded piece of equipment. ESD foot straps and ESD coats will provide more complete protection for your equipment and should also be used when practical.

Table of Contents

1 Getting Started

1.1 Introduction

This guide describes I30 SERIES family of products and features from Dowslake Microsystems.

These procedures are provided for installing the hardware and configuring the system.

1.2 Audience

This manual is designed for system administrators with a working knowledge of Telecommunication and Networking equipment, who need instructions about how to install and configure I30 SERIES.
WARNING: Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

2 Installing I30 SERIES Equipment

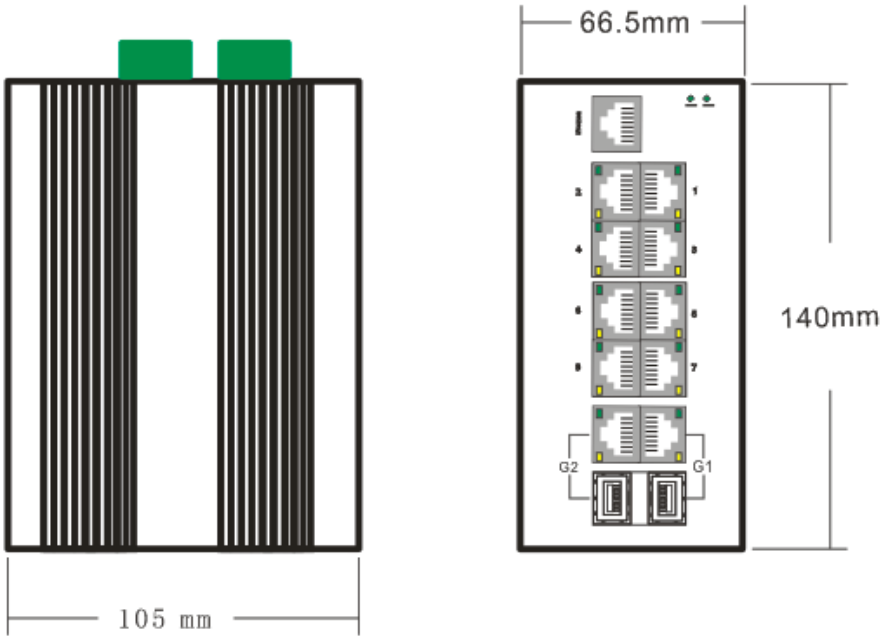
This chapter describes how to install the I30 SERIES equipment and connect them to your network.

2.1 I30 SERIES Overview

Quickte I30 series Carrier Ethernet switches are designed for Ethernet aggregation and access application. These switches are not traditional enterprise switches. But they provide the latest carrier Ethernet features and comply with IEEE, ITU and MEF standards.
I30 SERIES as part of I30 product family is a 1RU shelf-level compact frame. I30 SERIES is a highly scalable, flexible and integrated platform. It enables rapid deployment of carrier Ethernet functions.
I30 SERIES chassis is equipped with network management, which employs standard-based management protocols such as CLI or SNMP. This allows I30 SERIES to be easily integrated into existing EMS systems as a plug-in network element.
For use in a TN system, I30 SERIES is a UL Class 1, Type A system.

Quickte I30 family:

I30-802M:
8xFE RJ45 ports, 2* 1000m base-x(combo),8 ports included; Din Rail Shelf with 48V DC power and CLI/WEB/SNMP management included



Unpacking a I30 SERIES
The I30 SERIES ships with all of the following items. Please review the list below and verify the contents. If any of the items are missing, please contact your local Quickte representative.

- I30 SERIES chassis
- Rack mount brackets and mounting screws
- RS232 local interface cable

2.2 General Requirements

To manage the system, you need the following items for direct connection to the I30 SERIES chassis:

- A management station, such as a PC running a terminal emulation application.
- The RS232 cable provided with the package

Use the serial connection to perform initial configuration tasks including assigning an IP address and network mask to the system. This information is required for managing the system via the SNMP management interface.

2.3 Summary of Installation Procedures

Follow the steps listed below in order to install your I30 SERIES. Details for each of the steps listed below are provided later in this chapter.

- Ensure that the physical environment that will host the equipment has the proper cabling and ventilation.
- Verify that the LED's on the management card after power-on of the system.
- A terminal or PC serial port connection is all that is required to support configuration on the device.
- For additional access security, assign a new password by using the command line interface (CLI).
- Before attaching equipment to the network, you need to configure an interface IP address to the sub-net on which it will be located. Initial IP address configuration is performed using the CLI with a direct serial connection.
- Subsequent IP address configuration can be performed using the SNMP operations.
- I30 SERIES can be installed on a desktop or in a Din Rial rack.
- Once the equipment is physically installed, connect the equipment into a nearby power source or supply that adheres to the regulatory requirements.
- Once you power on the device and assign an IP address, the system is ready to talk to the network management.
- Test IP connectivity to other devices by pinging them and tracing routes.
- Continue configuring the device using the CLI or the SNMP management interface.

2.4 Handling and Cleaning Fiber Optic Equipment

2.4.1 Handling

Fiber optic cable is designed to survive the installation environment. As with coaxial cable, fiber optic cable should never be bent at sharp angles. The most vulnerable area of the fiber is the connector. When pulling fiber, do not pull directly on the connector or on the fiber immediately behind the connector. The fiber should be pulled from a point several inches back from the connector.
When working with multi-fiber cables, it is a good idea to color code each of the fibers in a cable. A connection chart can be made to help facilitate the connection and reconnection process.
Keep connectors covered with the protective caps when not using fiber optics cables or equipment. When a connection is made use only finger tightening. Do not use tools, as excessive force may damage or misalign the connection system.

2.4.2 Cleaning Procedures

Fiber Cable Connectors
Perform the steps below each time the connector is used:
1. Remove any accumulated dust or debris from the connector by blowing off the cylindrical and end-face surfaces of the connector using a canned air duster.
2. Use a pad or a wipe saturated with optical-grade isopropyl alcohol to gently wipe the cylindrical and end-face surfaces.
3. Use canned air to blow dry the connector surfaces or allow them to air dry.
4. Avoid touching the connector surfaces after cleaning. If the connector is not going to be used, it should be covered with a dust cap to prevent contamination.

Fiber Optic Receptacles

The procedures described above should not be applied routinely to fiber optic receptacles (ports), but only in instances where degraded performance of the assembly warrants cleaning (i.e., evidence of contamination).

Note: *Materials used for cleaning fiber-optic devices should be consistent with the function. Wiping cloths should be made of lint-free, nonabrasive materials.*
Cotton swabs should have a tightly wrapped tip and be talcum-free. Pure optical grade isopropyl alcohol (IPA) is the recommended solvent for cleaning connector tips. For removing dust from receptacles, canned compressed air is recommended. Do not use commercial compressed air or house air because of the risk of oil contamination.

2.5 Inspection

Decouple all optical connectors and inspect optical ports and connector tips for dirt or obstruction. Inspect with the amplifier with unit powered off only (see the safety precautions at the beginning of this manual). A 10X loupe is recommended. This inspection should be performed as needed in the event of gradual signal degradation.

2.6 Servicing and Maintenance

I30 SERIES is not serviceable nor does it require regular maintenance or calibration. If experience any difficulties with our product please refer to the Troubleshooting section of this manual or contact Quickte customer service.

2.7 Laser Safety

This product complies with IEC60825-1:1993 + A2:2001 and IEC 60825-2, 3rd Edition, 2004-06.

INVISIBLE LASER RADIATION
DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS
CLASS 1M LASER PRODUCT

2.8 Precautions

General Precautions

WARNING: Do not install the equipment in an environment where the operating ambient temperature might exceed 60^0C or below -10^0C.

WARNING: Make sure the air flow around the front, sides, and back of the device is not restricted.

WARNING: Never leave tools inside the chassis.

Lifting Precautions

WARNING: Make sure the rack or cabinet housing the equipment is adequately secured to prevent it from becoming unstable or falling over.

WARNING: Mount the equipment you install in a rack or cabinet as low as possible, placing the heaviest device at the bottom and progressively placing lighter devices above.

Power Precautions

WARNING: Use BOTH power supply, and provide separated branch circuits for the power (48V DC). This provides redundancy in case one of the circuits fails.

WARNING: To completely remove power, disconnect all power supplies.

WARNING: Disconnect the power supply from the outlet before pulling or plugging power supply card

WARNING: Always connect the ground wire

WARNING: Ensure that the equipment does not overload the power circuits, wiring, and over-current protection. To determine the possibility of overloading the supply circuits, add the ampere (amp) ratings of all devices installed on the same circuit as the device.

Compare this total with the rating limit for the circuit. The maximum ampere ratings are usually printed on the devices near the input power connectors.

WARNING: For the DC input circuit to a I30 SERIES chassis, make sure there is a 5-amp circuit breaker on the input to the power supply. Replacement of 5A fuses replaceable only by service personnel only

WARNING: A readily accessible disconnect device shall be incorporated in the building installation wiring

WARNING: This equipment is designed to permit the connection of the earthed conductor of the DC supply circuit to the earthing conductor at the equipment
If this connection is made, all of the following conditions must be met:

- This equipment shall be connected to directly to the DC supply system earthing electrode conductor or to a bonding jumper from an earthing terminal bar or bus to which the DC supply system earthing electrode conductor is connected.
- This equipment shall be located in the same immediate area (such as, adjacent cabinets) as any other equipment that has a connection between the earthed conductor of the same DC supply circuit and the earthing conductor, and also the point of earthing of the DC system. The DC system shall not be earthed elsewhere
- The DC supply source is to be located within the same premises as the equipment

Switching or disconnecting devices shall not be in the earthed circuit conductor between the DC source and the point of connection of the earthing electrode conductor

2.9 Preparing the Installation Site

2.9.1 Cabling Infrastructure

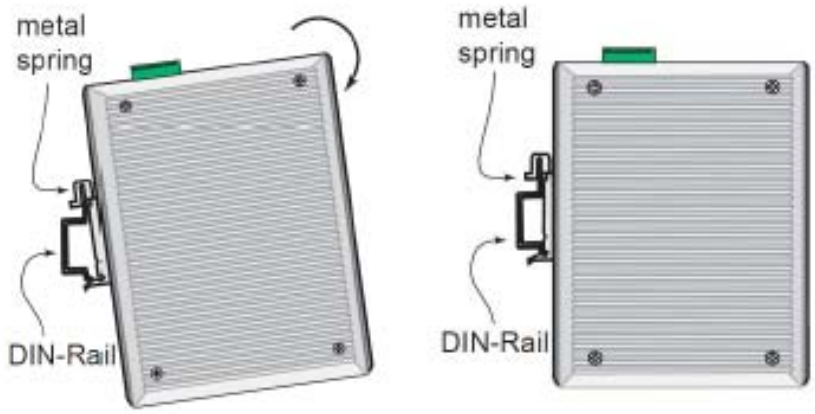
Ensure that the proper cabling is installed in the site. DC power wires should be able to support the maximum current draw. Communications cabling, serial or Ethernet should be installed and working.

2.9.2 Installation Location

Before installing the equipment, plan its location and orientation relative to other devices and equipment. Allow at least 3 inches of space at the front of the device for the twisted-pair, fiber-optic, and power cabling. Also, allow a minimum of 3 inches of space between the sides and the back of the device and walls or other obstructions.

2.9.3 Rack Mount Installation

- Remove the rack mount kit from the shipping carton.
- Attach the mounting brackets to the sides of the device as illustrated below.
- Attach the system to the rack as illustrated below.
  Go to "Powering On a System".
-



Step 1 step 2

Figure: Installing a chassis device in a rack mount

2.9.4 Desktop Installation

- Set the equipment on a flat desktop, table, or shelf. Make sure that adequate ventilation is provided for the system - a 3-inch clearance is recommended on each side.
-

2.9.5 Installing a DC Power Supply

- Prepare the negative and return wires by stripping about 1/4" of insulation off

the end of each one. (Use at least 14 AWG wire.)

- Loosen the two screws used to hold the wires in the connectors

These are the wires under the following markings:

- and +

- Slip the return wire into the opening above the + marking until the wire is fully in place, then tighten the screw to hold the wire in place.
- Repeat for the negative (48V)
- Pull gently on each wire to make sure they are securely fastened in the connector.
- Repeat to connect earth ground

2.9.6 Attaching a PC or Terminal

These ports are used for management:

RJ45: To connect with PC through RJ45 by using IP address to telnet in or by using Web GUI.
RS232: To connect with PC through RS232 port by using Virtual Terminal

There are a number of sessions you can open for different user interfaces:

Web GUI: you can access equipment by using Microsoft Internet Explorer. Please use windows IE 6.0 or higher version.

- CLI: there is no pre-set limit on the number of sessions. It is however equipment memory limited. Up to 5 sessions running simultaneously has been tested and found to work properly. But if a large number of sessions are running on the equipment simultaneously, the response may be slower. Note that you can run only one session per login and all login name/password are the same for this version.
- SNMP: SNMP is a UDP protocol, which is "connectionless". Thus it doesn't have session limitation

To attach a management station using the RJ45 port:

- The fastest way to connect to PC is to use Web GUI through RJ45 port. You need a RJ45 cable to connect with your PC and switch. Then run IE to access equipment.

- I30 SERIES equipment needs an IP address for its proper management. The default IP settings are as following:

IP Address	192.168.0.1
IP Mask	255.255.255.0
IP Broadcast Address	0.0.0.0
IP Default Gateway	192.168.1.254

I30 SERIES default login name is ALWAYS *admin*, default is no password.
Quickte highly recommend that you change the password when you first use yourI30 SERIES equipment.

NOTE: Changing the IP address will cause you loss the connection to the chassis; you need to restart a new telnet session with the newly assigned IP address and reconnect. The IP address will not change if you restart the system or restore the factory default settings.

To attach a management station using the serial port:

- Connect a PC or terminal to the serial port of the system using a straight-through cable. The serial port has a RJ45 connector.

NOTE: You need to run a terminal emulation program on the PC.

- Open the terminal emulation program and set the session parameters as follows:
  - Baud: 38400 bps
  - Data bits: 8
  - Parity: None
  - Stop bits: 1
  - Flow control: None

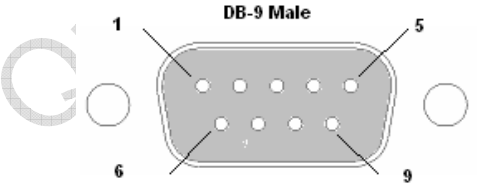
When you establish the serial connection to the system, press Return key on a blank line to display the following prompt in the terminal emulation window:

Switch>

If you do not see the prompt:

- Make sure the cable is securely connected to your PC and to the I30 SERIES equipment.
- Check the settings in your terminal emulation program. In addition to the session settings listed above, make sure the terminal emulation session is running on the same serial port you attached to the I30 SERIES equipment.

The EIA/TIA 232 serial communication port serves as a connection point for management by a PC or workstation. I30 SERIES equipment comes with a standard female to RJ45 connector; Serial cable options between a I30 SERIES equipment and a PC or terminal are shown in Figure below.



Pin Assignment	Terminal or PC
1	CD(Carrier Detect)
2	RXD(Receive Data)
3	TXD(Transmit Data)
4	DTR(Data Terminal Ready)
5	GND(System Ground)
6	DSR(Data Set Ready)
7	RTS(Request to Send)
8	CTS(Clear to Send)
9	RI(Ring Indicator)

Figure : Serial Port Pin Assignments

I30 SERIES Serial port RJ45 PIN assignment

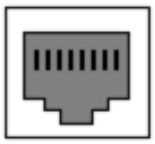
Pin Assignment	Pin Number	MTS Signal
1 2 3 4 5 6 7 8  RJ-45 Female	1	Reserved
	2	Reserved
	3	TXD(Output)
	4	GND
	5	GND
	6	RXD(Input)
	7	Reserved
	8	Reserved

Figure:I30 SERIES RJ45 PIN assignment

Serial Cable RJ45 to DB-9 connection:

RJ45 to DB-9

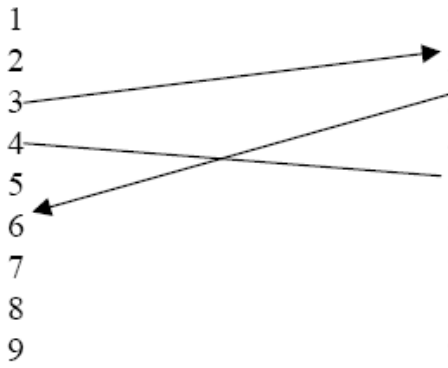
MTS	Terminal or PC	
1 2 3 4 5 6 7 8 9 	1 2 3 4 5 6 7 8 9	Other Pin reserved

Figure: Serial Connection between I30 SERIES and PC's

Appendix A: Product Specification

Specification	
Model	**Base Unit Power Over Ethernet(PSE)**
Input Specification	
Data Interface	RJ-45 Jack (See Pin Assignment)
Input Voltage	36 ~ 57 Vdc (48V)
Input Current	350mA MAX.
Input	@Vin=48Vdc
Output Specification	
PD Detection & Classification	IEEE802.3af compliant
PoE Interface	RJ-45 Jack
Output Voltage	48V±10%
Output Current	0.3A MAX
Output Power	15.4W MAX
General Specification	
Operating Temperature	-10°C ~ +60°C ()
Storage Temperature	-20°C ~ +70°C
Humidity	Up to 90% (non-condensing)
Cooling	Free air convection
Dimension	260(W)mmx140mm(L)x55mm(H)
LED Display	PoE Active (Green)

Appendix B: Troubleshooting

1. The device connected to PD cannot be powered.

   Solution:
   a. Please check if PD is connected to IEEE 802.3af complied device. And check if LED on the PD is blinking once connected to IEEE 802.3af complied device.
   b. Please check if the cable type is 8-wire UTP, Category 5, EIA 568 within 100 meters.
   c. Please check if power for PD and device meets requirement.
   d. Please check the specification of the powered device.

2. Can the device only work at 100 Mbps when it is connected to Gigabit Ethernet device

   Solution:
   PSE/PD use 4-wire for data transmission (1, 2, 3, 6) and 4-wiree for power supply (4, 5, 7, 8). Gigabit Ethernet device connect to Base Unit Power Over Ethernet(PSE)/10Watt P.O.E Terminal Unit(PD) will not send data over power wire.

Appendes C: RJ45 Connector Pin Assignment

RJ-45 Connector pin assignment		
Contact	MDI Media Dependant Interface	MDI-X Media Dependant Interface -Cross
1	TX + (transmit)	Rx + (receive)
2	TX - (transmit)	Rx - (receive)
3	Rx + (receive)	TX + (transmit)
4, 5	48V	
6	Rx - (receive)	TX - (transmit)
7, 8	Ground	

FCC Notice

This device complies with Part 15 of the FCC Rules. Operation is
subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

NOTE 2: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.