Product Overview

This chapter contains the following sections:

Overview

This hardware technical guide provides a product description, specifications, and compliance information for the Cisco Embedded Service 3300 Series Switches.

Note The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

The Cisco ESS 3300 is an embedded Ethernet switch card with a board size of 4.050 in x 3.775 in (102.87mm x 95.89mm). This module *may* fit in an enclosure that was *originally designed* for PC/104 modules with some additional adaptation.

The compact design simplifies integration and offers system integrators the ability to use the Cisco ESS 3300 in a wide variety of applications. The Cisco ESS 3300 consists of a Main Board and an optional Expansion Board. Both the Main Board and the Expansion Board are available with Cisco-designed cooling plates, and are also available without the cooling plates for system integrators who want to design their own custom thermal solutions.

The following table provides the hardware product IDs and brief descriptions for the boards.

SKU	Description	Ports	Thermal Power
ESS-3300-NCP-E	Main Board without a cooling plate.	2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports.	16 Watts
ESS-3300-CON-E	Main Board conduction cooled	2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports	16 Watts
ESS-3300-24T-NCP-E	Main Board with a 16p Expansion Board without a cooling plate	2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board	24 Watts
ESS-3300-24T-CON-E	Main Board with a 16p Expansion Board conduction cooled	2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board	24 Watts

Note Refer to the Cisco ESS 3300 Product Data Sheet for a complete list of available product IDs.

Note The 24T SKU is a combination of the Main Board together with the 16T Expansion board.

Audience

This guide is for system integrators who are integrating the Cisco ESS 3300 into a custom end product.

General Description

The ESS-3300 is a ruggedized GigE Embedded platform for tactical, outdoor and mobile installations. Some of the key features are:

- PC104 form-factor (mechanical size)
- Main Board – 2 Optical 10G + 8 GE ports (4 combo)
- Expansion Board – 16 GE ports (4 combo)
- Next Generation IE switch feature set

- Software: IOS-XE, Network Essentials and Network Advantage
- Native PoE software visibility
- WEBUI/IND/Cisco Prime support (Available early 2019)
- Industrial temperature: -40°C to +85°C conduction plate temperature
- ARM Quad-Core A53, 1.2GHz
- 4GB DDR4 DRAM memory capacity
- 1.2GB usable eMMC flash
- 3.3V and 5V power input
- Anti-counterfeit chip on both Main and Expansion Boards / Secure Boot
- RTC with customer provided power backup
- External Push Button, that supports the Zeroize feature
- Two alarm inputs and One alarm output
- One SD interface
- One USB 2.0 Host interface for USB Flash Memory Device.
- One USB 2.0 Console Interface.
- One RS-232 Console Interface.

Main Board Layout and Dimensions

The following figure shows the Main Board. The dimensions are 4.050 in x 3.775 in (102.87mm x 95.89mm).
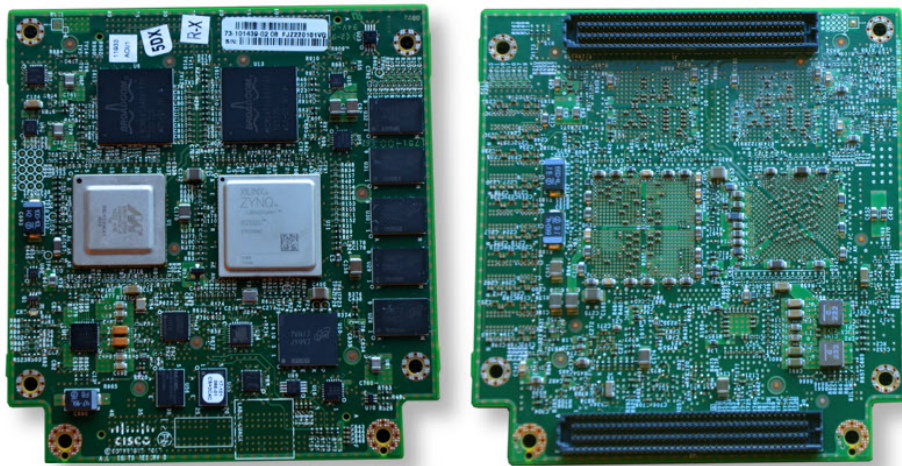
The following figure shows the Expansion Board. The dimensions are 3.55 in x 3.775 in (90.17mm x 95.89mm).
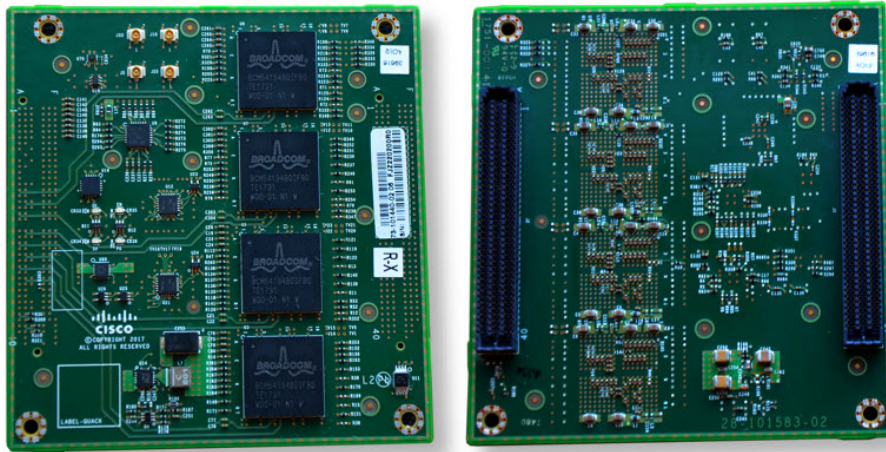
Main Board Without Cooling Plate

The following figures show the layout and dimensions of the Main Board that is not equipped with the Cisco-designed cooling plate (ESS-3300-NCP-E).

> **Note** Dimensions in inches. Tolerances (unless otherwise stated): .XX +/- 0.010, .XXX +/- 0.005

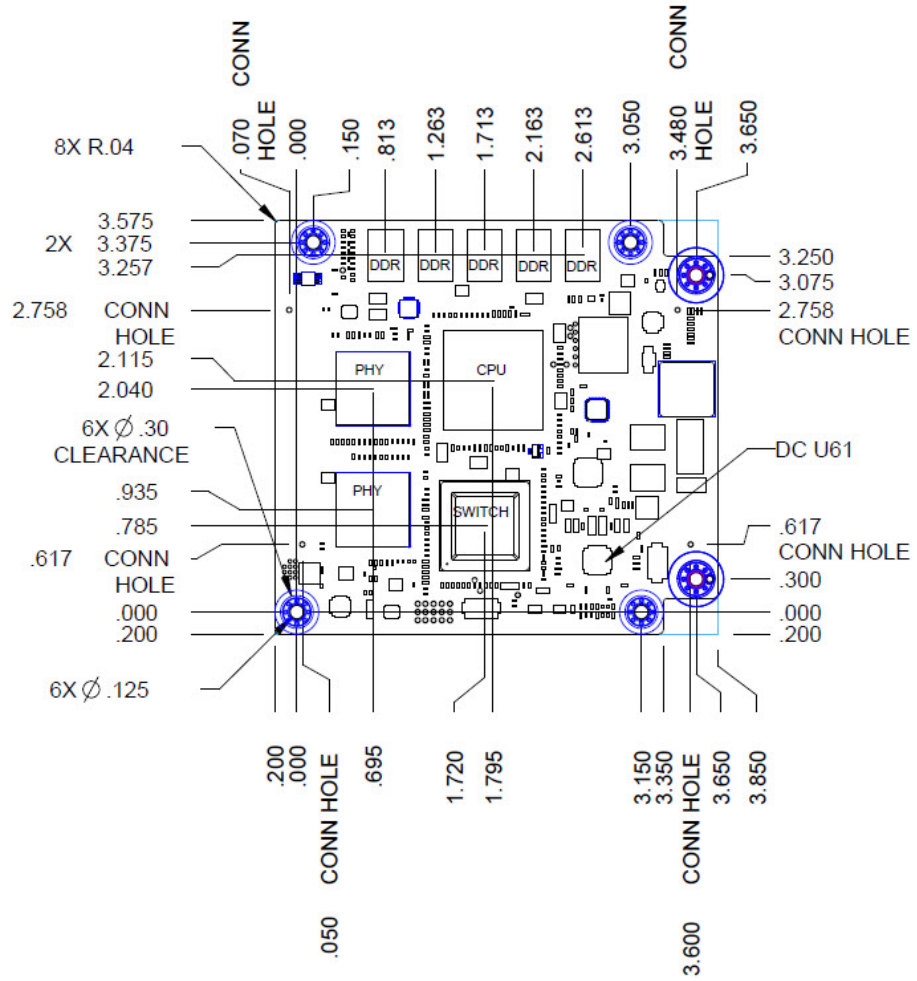*Figure 1: ESS-3300-NCP-E (Main Board Without the Cooling Plate)*

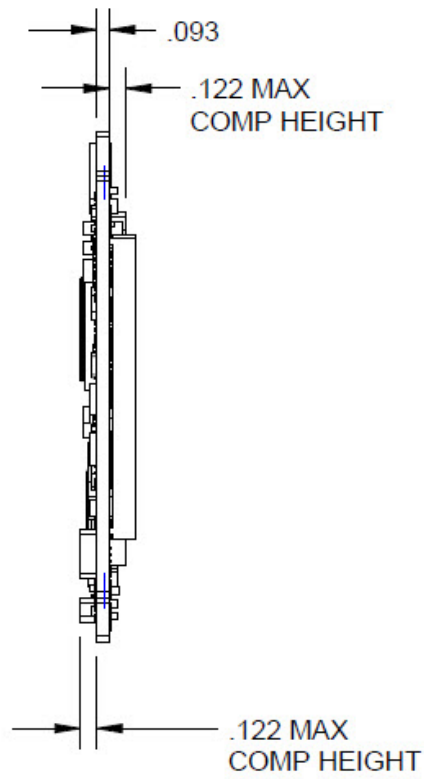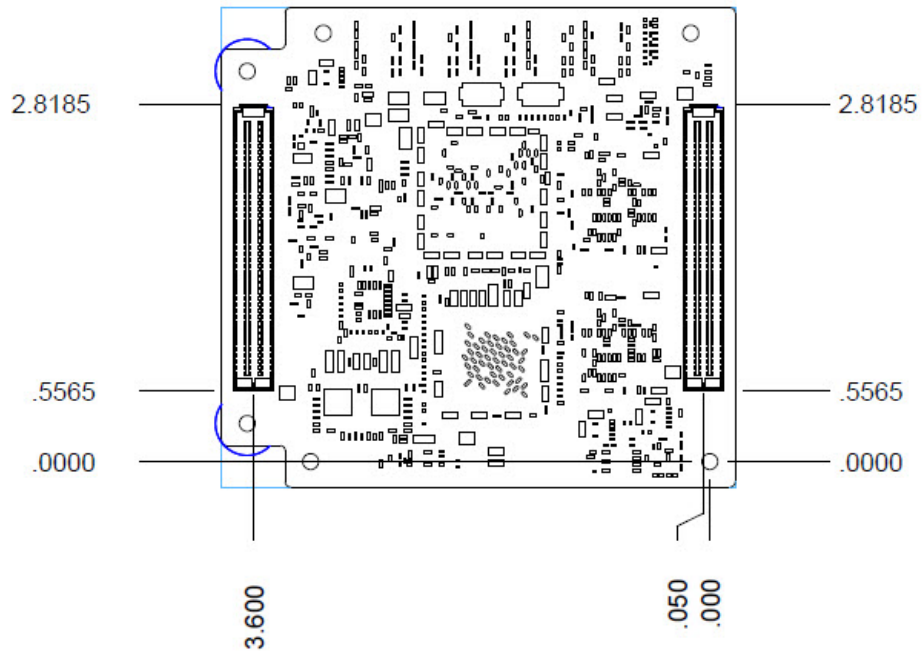*Figure 2: ESS-3300-NCP-E (Main Board Without Cooling Plate)*

Figure 3: ESS-3300-NCP-E (Main Board Without Cooling Plate)

Main Board With Cooling Plate

The following figures show the layout and dimensions of the Main Board that is equipped with the Cisco-designed cooling plate (ESS-3300-CON-E).

Note Dimensions in inches. Tolerances (unless otherwise stated): .XX +/- 0.010, .XXX +/- 0.005
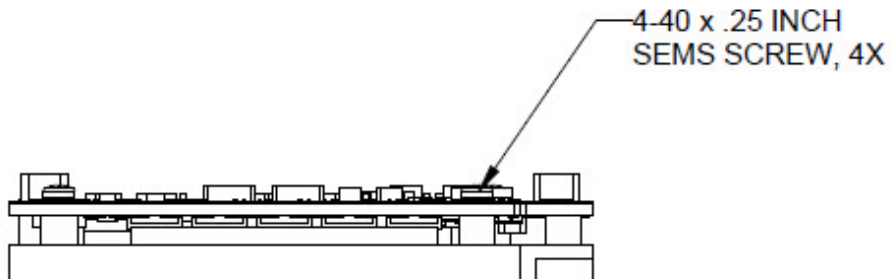
Figure 4: ESS-3300-CON-E (Main Board with Cooling Plate)

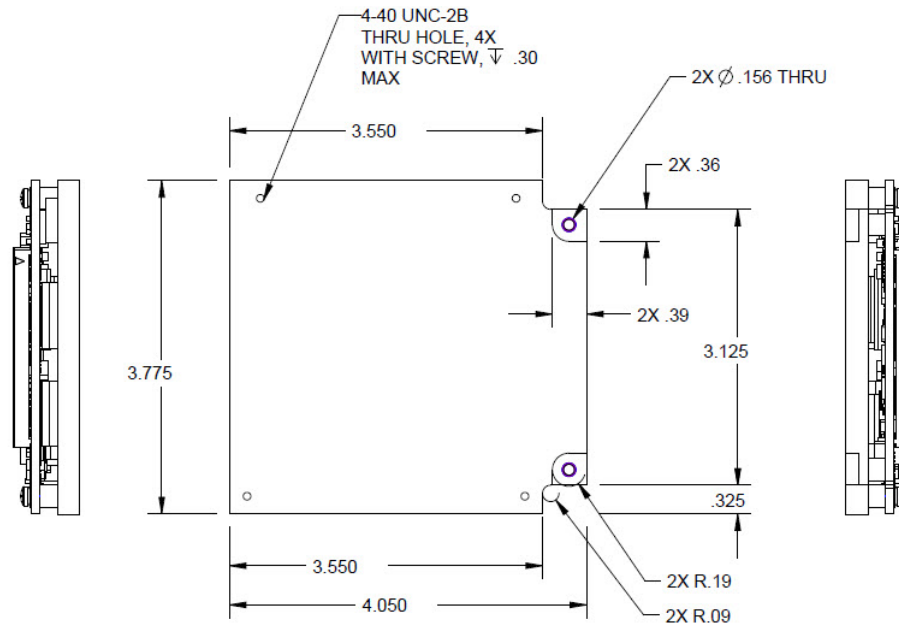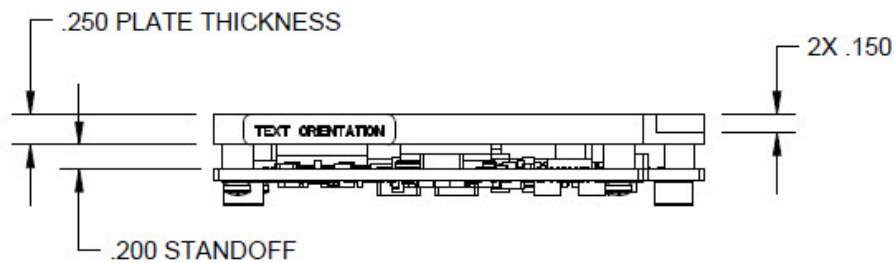Figure 5: ESS-3300-CON-E (Main Board with Cooling Plate)

Figure 6: ESS-3300-CON-E (Main Board with Cooling Plate)

Expansion Board Layout and Dimensions

This section shows details of the board layout.

Expansion Board Without Cooling Plate

The following figures show the layout and dimensions of the Expansion Board that is not equipped with the Cisco-designed cooling plate (ESS-3300-24T-NCP-E).

Note   Dimensions in inches. Tolerances (unless otherwise stated): .XX +/- 0.010, .XXX +/- 0.005

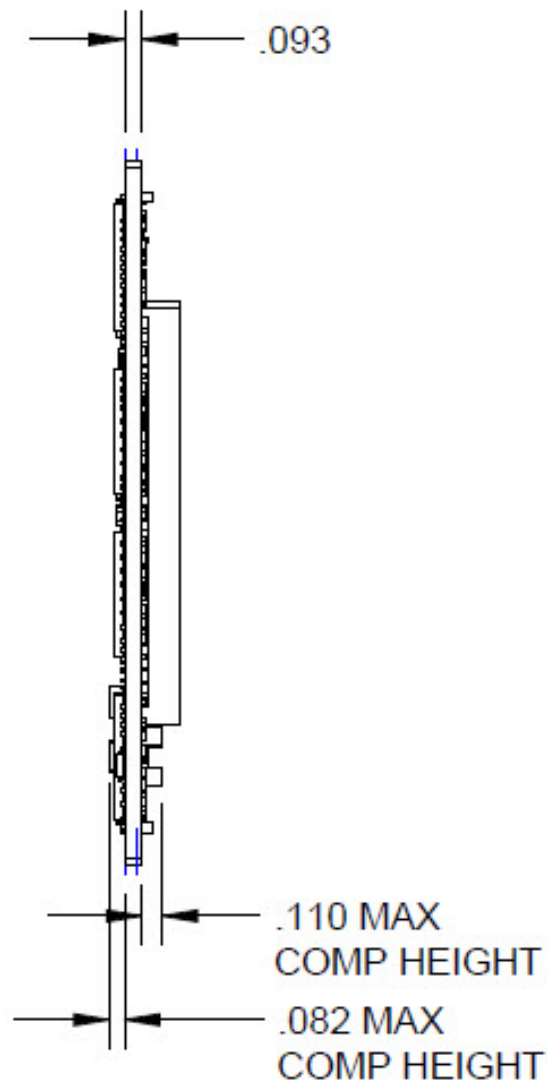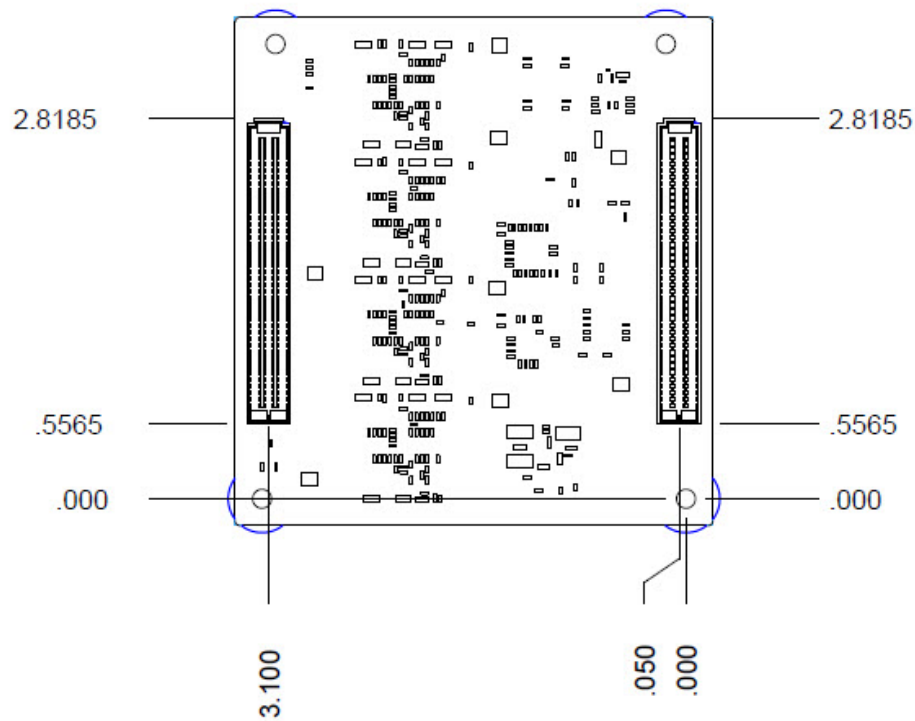*Figure 7: ESS-3300-24T-NCP-E (Expansion Board Without Cooling Plate)*

Figure 8: ESS-3300-24T-NCP-E (Expansion Board Without Cooling Plate)

Figure 9: ESS-3300-24T-NCP-E (Expansion Board Without Cooling Plate)

Expansion Board With Cooling Plate

The following figures show the layout and dimensions of the Expansion Board that is equipped with the Cisco-designed cooling plate (ESS-3300-24T-CON-E).

Note   Dimensions in inches. Tolerances (unless otherwise stated): .XX +/- 0.010, .XXX +/- 0.005

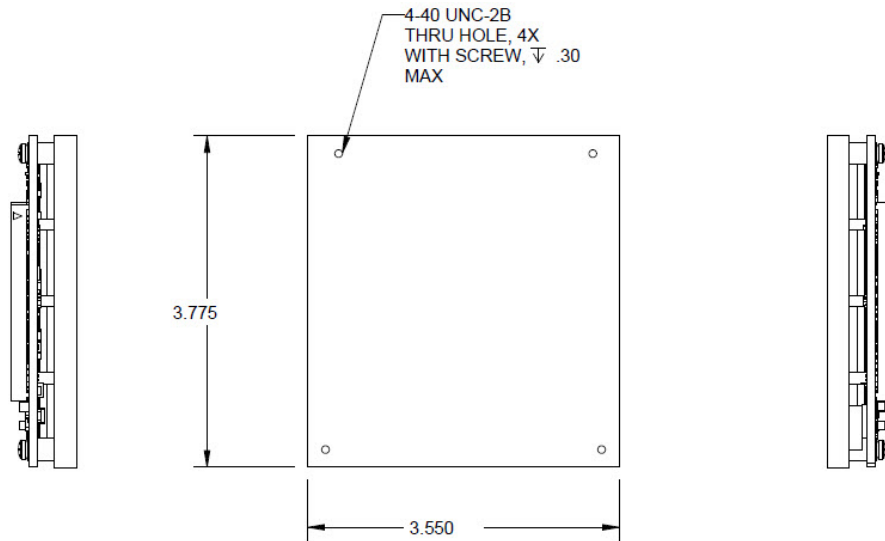*Figure 10: ESS-3300-24T-CON-E (Expansion Board with Cooling Plate)*


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4-40 UNC-2B
THRU HOLE, 4X
WITH SCREW, ▽ .30
MAX
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3.775

3.550

Figure 11: ESS-3300-24T-CON-E (Expansion Board with Cooling Plate)—Bottom and Side View
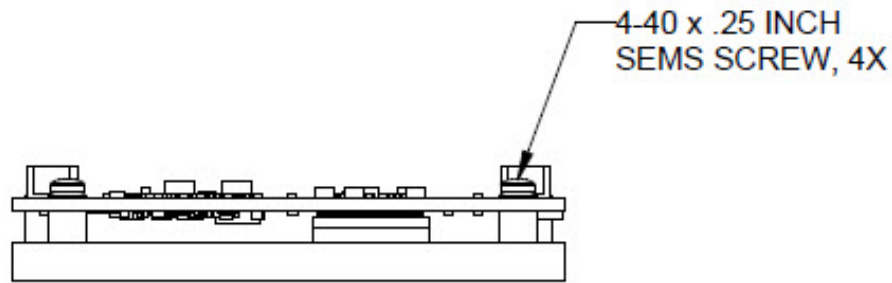

4-40 x .25 INCH
SEMS SCREW, 4X

Figure 12: ESS-3300-24T-CON-E (Expansion Board with Cooling Plate)

.250 PLATE THICKNESS

TEXT ORIENTATION

.200 STANDOFF