SEMI-AUTOMATIC BENCH TOP CRIMPING

A COMPREHENSIVE GUIDE

UNDERSTANDING YOUR TERMINATION SOLUTION OPTIONS

Selecting the right terminator platform for your wire harness needs starts with understanding how much force you require to crimp. Small wire sizes require less crimp force, but benefit largely from wire guides, and crimp quality monitoring to help maintain proper termination.

Conversely, larger wire sizes require more crimp force and in some cases the need to process loose-piece terminals.

Once you know what you plan to crimp our expert sales and engineering teams can guide you to the right solution based on your specific crimp requirements and cost considerations.

Applicator Platform & Description	Recommended Terminator Type By Wire Size				
	3K/40	5K/40	GII	GII+	HF/HV
OCEAN 2.0 Applicator (Up to 6 mm²) Feed options: S (Side Feed), E (End Feed) Crimp form: F (F crimp), O (O crimp), OV (Overlap crimp)	Up to 2.5 mm²	Up to 6 mm²	Up to 6 mm²	Up to 16 mm²	-
Mini Applicator Loose Piece (Up to 8 mm²) Feed options: LP (Loose Piece)	-	-	Loose piece up to 6 mm²	Loose piece up to 16 mm²	-
Mid-Size Applicator (6 mm² - 25 mm²) Feed options: SF (Side Feed), EF (End Feed)	-	-	-	Up to 16 mm²	Side feed up to 120 mm²
Mid-Size Wire Applicator Loose Piece (8 mm² - 16 mm²) Feed options: LP (Loose Piece)	-	-	-	Loose piece up to 16 mm²	-
Large Size Wire Applicator (25 mm² - 50 mm²) Feed options: SF (Side Feed), EF (End Feed)	-	-	-	-	Side feed up to 120 mm²
Large Wire Modular Die Holder (16 mm² - 120 mm²) Feed options: LP (Loose Piece)	-	-	-	-	Loose piece up to 120 mm²
Splice Applicators					
OCEAN 2.0 Applicator (Up to 12,000 CMA) Feed options: S (Side Feed), E (End Feed) Crimp form: F (F crimp)	Up to 2.5 mm²	Up to 6 mm²	Up to 6 mm²	-	-
Standard Splice Applicator (Up to 12,000 CMA) Feed options: SF & EF Splice Type: Butt (Thru-splice) & Pigtail, but according to terminal features. Terminal determinate crimp style.	-	For splices up to 6 mm²	For splices up to 6 mm²	-	-
Mini Applicator Splice (Up to 22,000 CMA) Feed options: E (End Feed) Splice Type: Butt (Thru-splice), Pigtail	-	-	-	For splices up to 16 mm²	-
Mid-Size Wire Applicator (Up to 12,000 CMA) Feed options: S (Side Feed) Splice Type: Butt (Thru-splice), Pigtail	-	-	-	For splices up to 16 mm²	-
Inverted Splice Applicator (Up to 12,000 CMA) Feed options: E (End Feed) Splice Type: Butt (Thru-splice), Pigtail	-	Inverted splice up to 6 mm²	-	-	-

TE CONNECTIVITY / APPLICATION TOOLING / SEMI-AUTOMATIC BENCH TOP CRIMPING

UNDERSTANDING YOUR TERMINATION SOLUTION OPTIONS

5K Terminators

- Capable of 5,000 lbs of crimp force
- Priced competitively
- 40 mm stroke available
- Available with and without crimp quality monitoring (CQM II)

GII Terminator

- Capable of 5,000 lbs of crimp force
- Improved interior lighting compared to 3K/5K platform
- 40 mm stroke only
- Available with and without CQM II module
- Split-cycle comes standard (helping to position for data connectivity sub-assemblies)
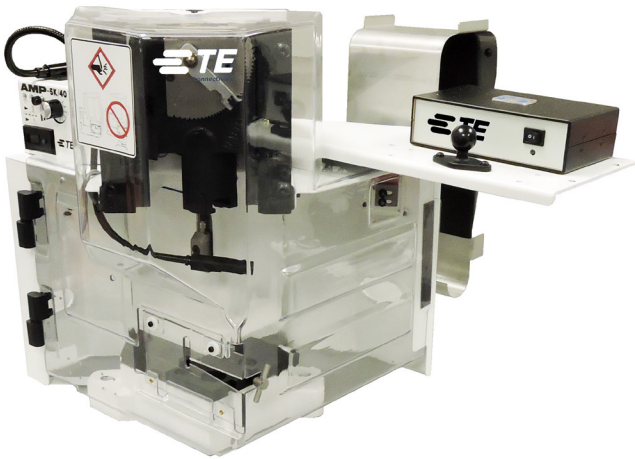
HF-20T Terminator

- Capable of 40,000 lbs of crimp force
- 44 mm stroke only
- Capable of processing up to 120 mm² wire
- No CQM II module

HV-20T Terminator

- Capable of 40,000 lbs of crimp force
- 44 mm stroke only
- Includes CQM II module
- Capable of processing up to 120 mm² wire

AMP 5K/40 TERMINATORS

Specifications

Customer Manual: 409-10204

Crimp Force: AMP 5K/40 max. 2.268 kg [5,000 lb.] capable of crimping 0.03–6 mm² [32-10 AWG]

Electrical: 100-240 V, 50/60 Hz, single-phase

Operating current is 3 amps

*Note: Customer must supply power cord and final connection

Air: 620-760 kPa [90-100 psi], 2.83 l/s (6 cfm) (Please refer to application logs for specific air requirements)

Dimensions (without terminal reel and reel support)

Weight: 77.3 kg [170.4 lb.]

Height: 585 mm [23 in.] without reel supports

Width: 536 mm [21.1 in.]

Depth: 521 mm [20.5 in.]

Features

AMP 5K/40 terminators use a DC motor with gearbox drive. The result is a small-footprint design that is fast and quiet.

Cycle time is less than 0.4 seconds with an operation sound level of 76 dB(A).

Standard features such as tool-less precision crimp height adjust, CQM capability, batch counter and an work light are integral parts of serial equipment. By offering options the AMP 5K/40 terminator can be tailored to the specific application requirements withou inflating the price for unwanted features.

The AMP 5K/40 terminator is CE approved.

Standard Equipment (5K/40 models only)

- Tool-less precision crimp height adjustment
- Manual shut height adjustment
- Batch counter
- Work light
- Tool-less removal/exchange of applicators
- Jog capability
- Assembled with metric hardware

Optional Equipment (5K/40 models only)

- Pneumatic feed
- Crimp Quality Monitor (CQM II)
- Oiler kit

Description	Stroke	Baseplate	Part #
AMP 5K/40 CE Terminator	40 mm	AMP Style	2161500-1
AMP 5K/40 CE Terminator (W/ CQM II)	40 mm	AMP Style	2161500-2
AMP 5K/40 CE (W/ Strip Module)	40 mm	AMP Style	2161700-4
AMP 5K/40 CE (W/ Strip Module and CQM II)	40 mm	AMP Style	2161700-5

AMP-O-LECTRIC GII TERMINATOR

Safety First

Improved guarding on the GII terminator provides open access for quick and smooth installation of both end-feed and side-feed applicator styles and meets applicable CE and domestic safety requirements.

Engineered with the Operator in Mind

The GII is one of the quietest terminators on the market. It features improved access to, and significantly updated lighting in the under cabinet and target areas, and includes a variable speed option which gives the operator more flexibility for those tricky applications that benefit from slower ram and feed speeds. And, with its tool-less changeover capability, setup is both quick and easy.

Precision Matters

All GII terminators include precision adjustment for crimp height — an important feature, which, in combination with the optional Crimp Quality Monitor (CQM II), enables repeatable, tight crimp tolerances required for today's demands for higher levels of quality. By simply resetting a dial, the operator can adjust crimp height in 0.013 mm [.0005"] increments over a 0.457 mm [.018"] range.

Complete Control

Our user-friendly LCD control panel includes simple buttons for: adjusting ram speed, jogging the motor forward or reverse, split-cycle operation, work lighting, air feed, and batch counter reset. For improved quality, the controls also detect and report errors in the machine and stop cycling when a bad crimp is detected by the CQM II.

Specifications

Customer Manual: 409-32035

Crimp Force:	2,268 kg [5,000 lb.] maximum crimp force capable of crimping 0.03–6.0 mm² [32-10 AWG]
Air:	Pneumatic 620-760 kPa [90-100 psi] for models with air feed applicators and/or stripper module.
Electrical:	100-240 VAC, ± 10% AC, 50/60 Hz, Single phase. Operating current is 3 amps

*Note: Customer must supply power cord and final connection

Dimensions (without terminal reel and reel support)

Weight:	104 kg [230 lb.]
Height:	520.7 mm [20.5"]
Width:	546.1 mm [21.5"]
Depth:	553.7 mm [21.8"]

Description	Stroke	Baseplate	Part #
GII CE Terminator (W/Stripping Module)	40 mm	AMP Style	2217001-3
GII CE Thru-Splice Terminator	40 mm	Thru-Splice	2217002-1
GII CE Thru-Splice Terminator (W/CQM II)	40 mm	Thru-Splice	2217002-2

HF-20T & HV-20T TERMINATORS

Engineered for High Voltage Applications

The HF-20T and HV-20T are robust, compact, high force bench top machines capable of terminating cables up to 120 mm². Both models are eccentric presses capable of reaching 178 kN (20 tons) of crimp force, with fast, repeatable accuracy. The HV-20 model comes with a CQM II digital interface for crimp force monitoring, variable speed and an integrated vacuum system to keep sensitive connections clean and clear of debris commonly associated with high voltage cable processing.

Flexible Design

To best fit the application process, the flexible design of the high force machines accommodate multiple processing orientations. The adjustable die holder platform can be easily rotated to handle processing from the left, front or right side of the unit. Side feed guarding is also available for all models to accommodate both loose piece and reeled terminal applications.

Safe, Easy Operation

Both models offer a simple push button design with multiple interlock features to confirm operator safety throughout the crimping process.

Specifications

Crimp Force: 18,144 kg [40,000 lb.] max

Air: Pneumatic 620-760 kPa [90-100 psi]

Electrical: 208-240 VAC, 50/60 Hz, Three-Phase Operating current is 4kW

Dimensions (without terminal reel and reel support)

Weight: 637 kg [1,404 lb.]
Height: 974 mm [38"]
Width: 777 mm [30.5"]
Depth: 552 mm [22"]

Ordering Information

Description	w/Loose Piece Guarding
HF-20T, High Force Terminator, 400V	2335500-1
HF-20T, High Force Terminator, 200V	2335500-2
HV-20T, High Voltage Terminator, 400V	2348822-1
HV-20T, High Voltage Terminator, 200V	2348822-2

INDUSTRY 4.0 READY

The HV-20T and HF-20T bench top terminators combine sophisticated controls, a traceability system and multiple ethernet and USB ports to make them Industry 4.0. ready.

PIGTAIL SPLICE STANDARD AND INVERTED TERMINATORS

Specifications

Crimp Force: 2,268 kg [5,000 lb.] max

Air: Pneumatic 620-760 kPa [90-100 psi] for models w/air-feed applicators (Please refer to application logs for specific air requirements)

Electrical: 208-240 VAC, 50/60 Hz, Single Phase Operating current is 5 amps

*Note: Customer must supply power cord and final connection

Dimensions (without terminal reel and reel support)

Weight: 77.3 kg [170.4 lb.]
Height: 585 mm [23 in.] without reel supports
Width: 536 mm [21.1 in.]
Depth: 521 mm [20.5 in.]

Multiple Versions Available

TE standard splice terminators are offered in multiple versions, for both pigtail or thru-splices (with front and rear operator access), and can come with or without crimp quality monitoring (CQM II). When equipped with the CQM II, force and position can be measured during every crimp cycle, providing real-time monitoring of crimp height, the fundamental crimp characteristic, and the shape of the work curve for every termination. Standard Splice terminators do not accept heavy-duty mini (HDM), heavy-duty industrial (HDI) and OCEAN applicators.

If better access to present wires to the crimping area is needed, the Inverted Splice Terminator (IST) provides more flexibility when terminating leads from completed motor assemblies. When using the pig-tail applicator, operators can cut excess wire using the integrated shear in the applicator, thereby keeping leads as small as possible (short break out). Shorter leads provide added flexibility to post-process magnet wire applications. Operators can more easily tuck in or heat shrink terminated lead ends, allowing for potentially smaller motor housings.

Ordering Information

Description		Part #
Standard Splice	GII CE Thru-Splice Terminator	2217002-1
	GII CE Thru-Splice Terminator (w/ CQM II)	2217002-2

TERMINATOR OPTIONS

Capacitive Start Sensor

A retrofittable capacitive start sensor is available for 5K/40 terminators with stripping modules.

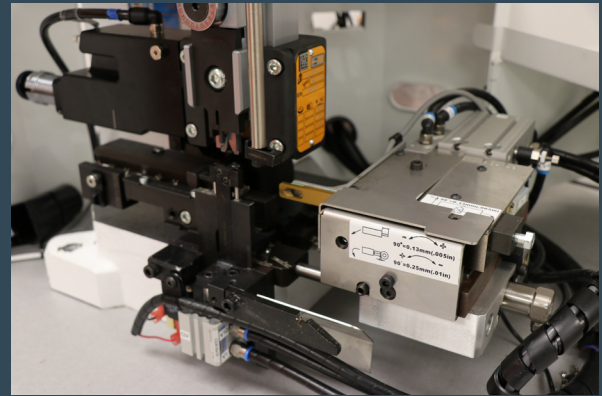| Description	Part #
Capacitive start sensor	2844876-2

Short Strip Blades

Short strip blades for stripping down to 1.5 mm strip length are available for 5K/40 terminators with stripping modules.

Description	Part #
Short strip blades	2217860-1

Guard Insert Part Numbers

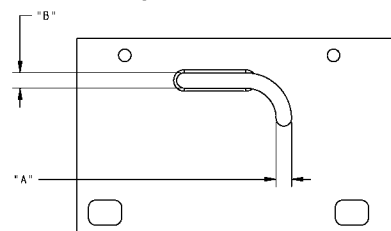| Description	Part #	Dimensions	
		A	B
Standard (away from the applicator)	354529-2	7.80 mm [.307 in]	6.35 mm [.250 in.]
Standard (close to the applicator) shipped with the machine	1-679532-0	6.22 mm [.245 in.]	5.08 mm [.200 in.]
Near tape	679994-2	6.35 mm [.250 in.]	6.35 mm [.250 in.]
Away from tape	679995-2	8.74 mm [.344 in.]	6.35 mm [.250 in.]

Optional Stripping Module

- For end- and side-feed applicators
- 3 modes of operation (Crimp only, strip only, or strip & crimp)
- Foot-switch or sensor activated
- Fast applicator changeover and easy adjustments
- Step mode for fast set-up
- Air blast ejects slugs into a collecting tray
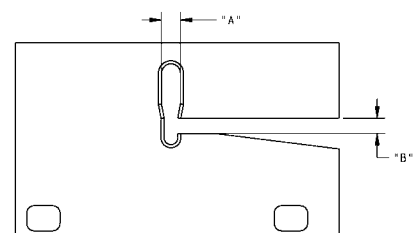- Compatible with crimp quality monitor

Base Plate

- The base plate with stripping unit as an option provides the mounting surface on which the applicator is installed
- The applicator can be installed and removed with a long allen key
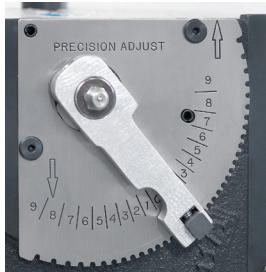
Tape Guard Insert

Standard Guard Insert

Note: Some applications require the installation of an oversized guard kit 1976900-1. These applications are primarily ones that use two-inch stroke air-feed cylinders.

TERMINATOR OPTIONS

Crimp Height Adjustment Using Precision Adjustment Mechanism

- Uses detent stops in the mechanism to adjust crimp height
- Indexing the mechanism can be done in either direction
- Allows users to change the crimp height in increments of approx. 0.013 mm [.0005 in.] per step
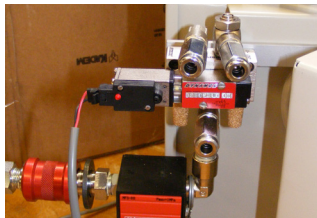
Applicator Gauge

Suitable instrument to provide correct positioning of all TE applicators.

Compatible with most crimping presses that use quick changes style applicators.

Alignment Gauge
528440-5

Airfeed Valve Assembly

Description	Type	Part #	Purpose
Air feed valve kit for 3K & 5K	Standard	2161209-1	Required to run air feed applicators equipped with dual-acting cylinders
Air feed valve kit for GII	Standard	2217339-1	

Control Panels

5K

Decrease Speed
Decreases the motor speed for normal cycle operation and for jogging.

Increase Speed
Increases the motor speed for normal cycle operation and for jogging.

Error Reset
Clears the displayed error code.

Count Reset
Clears the batch count to 0.

Jog & Jog Reverse
Causes the DC motor to rotate forward or backward at the jog speed set by the increase/decrease speed. Reverse is only available on GII & GII+ models.

Full Cycle
Terminator rotates one full cycle when the footswitch is pressed. The LED light will remain on when in this mode of operation. GII & GII+ models only.

Split Cycle
The terminator rotates to the down position on the first press of the footswitch, then completes the cycle on the second press of the footswitch. The LED light will remain on when in this mode of operation. GII & GII+ models only.

Split cycle is required for some closed barrel terminals and data connectivity applications.

TERMINATOR OPTIONS
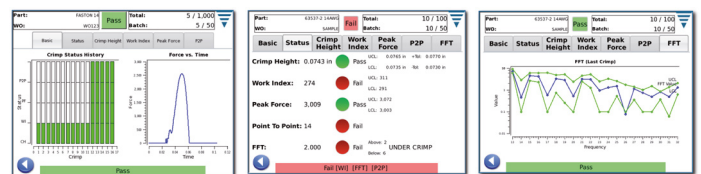
Crimp Quality Monitor (CQM II)

When used on TE terminators the CQM II provides a complete crimp detection analysis. It checks every crimp as it is produced, measuring crimp height of each termination and evaluating the quality of each crimp. If a crimp has questionable characteristics, visual and audible alarms alert the operator. The CQM II includes data ports for printing and networking.

CQM II offers five different crimp analysis methods.

- Crimp height
- Work index
- Peak force
- Fast Fourier Transform (FFT)
- Point-to-point

Features

- Best measurement to check compliancewith crimp design
- Real time measurement during crimp cycle
- Inspects 100% of terminations
- Crimp height measurement accuracy: +/-0.012 mm
- Data can be saved to a USB flash drive
- 5 unique analysis methods capable of detecting most crimp faults

Operation Setup of CQM

- Simple set-up and operation through task-bar selections
- The system walks the user through all necessary tasks required to start production

Ordering Information for CQM II Kits

Description	Part #
AMP 5K/40 Terminator	2161670-1
AMP 5K/40 Terminator (w/ Stripping Module)	2161670-2
GII Terminator	2217288-1
GII Terminator (w/ Stripping Module)	2217288-2

FIELD SERVICE SUPPORT

SERVICES

Standard Service

- Includes troubleshooting and making repairs

Equipment Installation

- Providing installation, set-up and training at time of equipment delivery

Training

- Basic crimp theory
- Hand tool, applicator and equipment set-up, operation and maintenance

Preventive Maintenance and/ or Inspection Certification

- Provides service for periodic visits to perform preventive maintenance and/or inspection certification service on hand tools, applicators and bench equipment. Inspection of the finished product is made to confirm it meets TE application specifications. Documentation is available upon request for traceability to support your facilities' quality system requirements

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Contact us today to learn more

E-mail (Americas): **toolingsales@te.com**

Phone (Americas): 800-722-1111 or
                           717-986-3434

Phone (EMEA):   +49-6251-133-3936

Phone (APAC):   +86 21 3325 9030

For field service inquiries go to
www.te.com/fieldservice

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