



Crimp Quality Monitor (CQM)

Catalog
82275
Revised 9-99

Product Facts

- Monitors the wire barrel crimp of open-barrel, uninsulated contacts and terminals
- Real-time monitoring of every crimp
- Use with bench and automatic lead-making machines
- Special applicators not required on some machines
- Full-featured system:
 - Calculates and displays actual crimp height
 - Menu-driven programming
 - Downloads to a printer or PC
 - Stores data for up to 200 part numbers and 200 applicator IDs
 - Automatically adjusts crimp height on some machines
- Manufactured under an ISO 9001 Certified Quality System

A copy of the certificate is available upon request.



Technical Documents

Customer Manuals

- 409-10007 CQM
- 409-5820 CQM (Stripper-Crimper)
- 409-5854 CLS IIIG
- 409-5866 and 409-5870 CLS IV
- 409-5878 CLS IV+

Instruction Sheet

- 408-4279 CQM-Jr.

Specifications — CQM

- Electrical** — 100-240 VAC, 50/60 Hz, 3.2 A
- Size** — 8.8 [220] W x 8.1 [205] D x 4.6 [115] H (Monitor)
- Weight** — 5 lb [2.3 kg] (Monitor)

*Y2K Ready means that this product either does not contain any date functions and is therefore not date dependent, or it has successfully completed the AMP Year 2000 Test Procedure 620-72, a copy of which is available upon request.



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You now have two ways to monitor crimp quality. Depending on your application, you can choose a full-featured CQM system with a display monitor and programming capability, or the new entry-level CQM-Jr. that alerts you of questionable crimps with a beep and an indicator light. Either way, you get accurate, real-time monitoring of every crimp.

All AMP CQM systems are two dimensional — they monitor both force and position during the crimping cycle using applicator- or machine-mounted sensors. For every crimp they check crimp height — the fundamental characteristic of a crimp — as well as the shape of the force curve. Variations may be an indication of: using the wrong wire, improper positioning of the wire against the wire stop resulting in not enough wire or insulation in the wire barrel, or even tooling wear.

The full-featured CQM calculates crimp height and displays the current value on the monitor's LCD screen. The monitor also

displays a running bar graph of previous values. Other displays include job and system setups, batch and job statistics, and system diagnostics. These are all accessible through easy-to-follow, menu-driven screens using the keypad located under the display screen.

In support of a wider quality program, the full-featured CQM can serve as a data collection point. You can download crimp data and batch and job statistics to a printer via an RS-232 port or to a PC via an optional RS-485 port. A software program called Data Acquisition System is available from AMP to manage data collection and documentation for a network of up to 20 CQM systems. For more information request catalog 82969.

CQM systems are available for a variety of AMP bench-top and automatic lead-making machines (see page 3 for ordering information). On CLS machines, the monitoring and programming functions are accessed on the machine's

touchscreen control monitor. With machine-mounted sensors, also known as G-Adapter, you may use regular mini-style applicators, as well as CQM applicators. The G-Adapter is not available for AMP-O-MATIC Stripper-Crimper Machines.

You cannot use CQM to monitor the application of closed-barrel, pre-insulated terminals.

Need more information?

For more information, specifically about tooling, call the AMP Technical Support Center at **1-800-522-6752**.

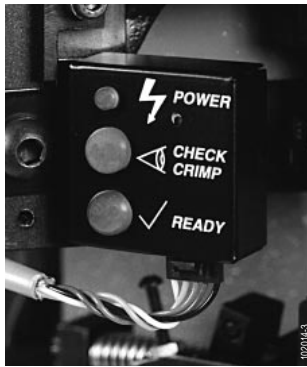
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CQM-Jr. Crimp Quality Monitoring System

Product Facts — CQM-Jr.

- Real-time monitoring of every crimp
- Detects gross variations in crimp height
- Monitors up to 5 000 crimps per hour
- Easy to use — green light for “READY,” yellow for “CHECK CRIMP”
- No programming required
- No special applicators required
- May be added to existing AMP-O-LECTRIC Model “G” bench machines



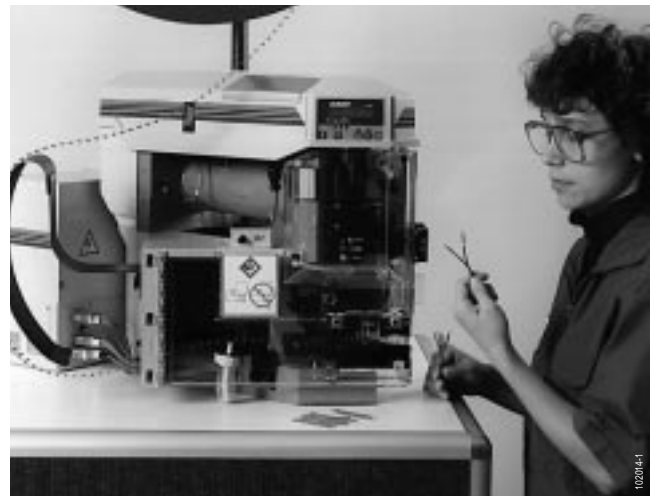
CQM-Jr.

Technical Document

Instruction Sheet
408-4279 CQM-Jr.

Specifications — CQM-Jr.

Electrical — 100-120 VAC, 60 Hz, 6 A, single phase; 200-240 VAC, 50 Hz, 3 A, single phase
Size — 9.75 [250] W x 5.5 [140] D x 12.5 [305] H (Control Box)
Weight — 10.7 lb [4.9 kg] (Control Box)



CQM-Jr. is an easy way to monitor crimp quality. All you do is plug it in, turn it on, and start crimping. For each job, you calibrate the system by making five consecutive good crimps. You verify the crimps are good by inspecting them visually and measuring crimp height. It's that simple.

Like CQM, CQM-Jr. monitors crimp quality by checking crimp height as well as the shape of the force curve during each crimping cycle. When it detects a questionable crimp, it alerts you with a beep and “CHECK CRIMP”

indicator light (pictured at left). You inspect the crimp — first visually, and then, if necessary, by measuring crimp height.

After the initial calibration, the system continues to refine its stored reference parameters with each subsequent good crimp.

To recalibrate CQM-Jr. you press the “CQM-Jr. RESET” button mounted on the machine (above the warning label on the front guard pictured above). This clears its memory and turns the “READY” light off. You also clear its memory when

you turn the power off. The “READY” light comes back on after you've made five crimps. It stays on, yet blinks each time a crimp is detected to verify the system is operating.

CQM-Jr. was designed for use with the bench-top version of the AMP-O-LECTRIC Model “G” Terminating Machine with manual precision adjust. Unlike CQM, CQM-Jr. does not support automatic precision adjust.

The control box for CQM-Jr. is positioned behind the machine.

Ordering Information for CQM-Jr.

To use regular mini-style applicators with CQM-Jr., your Model “G” must be equipped with machine-

mounted sensors, called G-Adapter. CQM applicators with built-in sensors may also be used, but must

be connected to the control box using a separate hookup cable.

Machine	G-Adapter	CQM-Jr.	CQM Applicator Hookup Cable
AMP-O-LECTRIC Model “G” Terminating Machine			
<i>With Manual Precision Adjust</i>			
354500-1	122990-9 (Rev. H or Higher) ¹	318483-1 (120 VAC)	764639-1
	1-122990-0 (Rev. G or Lower) ¹	318483-2 (220 VAC)	
354500-9	Included with Machine	318483-1 (120 VAC)	764639-1
		318483-2 (220 VAC)	

¹ Order 122990-9 for Model “G” terminating machines with revision code “H” or higher; 1-122990-0 for units with revision code “G” or lower. Field conversions require AMP Field Engineering assistance. Call the AMP Technical Support Center at 1-800-522-6752 for more information.



Ordering Information for CQM

To use regular mini-style applicators with CQM, your Model "G" must be equipped with machine-mounted sensors, called G-Adapter. CQM applicators with built-in sensors may also be used, but must be connected to the monitor using a separate hookup cable.

When selecting CQM, you need to order a Monitor and an

Interface Kit. The contents of each kit vary by machine, but typically include hookup cables, indicator lights, and mounting hardware.

An Auto-Adjust Kit is available for upgrading manual precision adjust machines.

Machine	G-Adapter	CQM		Auto-Adjust Kit/ CPU Board	CQM Applicator Hookup Cable
		Monitor	Interface Kit		
AMP-O-LECTRIC Model "G" Terminating Machine					
<i>With Manual Precision Adjust</i>					
354500-1	122990-9 (Rev. H or Higher) ¹ 1-122990-0 (Rev. G or Lower) ¹	1320420-2	1320431-2	354531-1/ 354259-2 ⁴	354452-2
354500-9	Included with Machine	1320420-2	1320431-2	354531-1/ 354259-2 ⁴	354452-2
122754-1 (Used with KOMAX 40T Wire Processing System) ⁵	122990-3 ^{1,2} 122990-4 ^{1,2}	1320420-2 (2 Required)	122756-1 ²	354531-1 (2 Required)	Included with Interface Kit
122754-3 (Used with KOMAX 43 Wire Processing System)	122990-5 ³	1320420-2 (3 Required)	122756-2 ³	354531-1 (3 Required)	Included with Interface Kit
<i>With Auto Precision Adjust</i>					
1-354500-1	Included with Machine	1320420-2	1320431-2	Included with Machine	354452-2
122754-2 (Used with KOMAX 40T Wire Processing System) ⁵	122990-3 ^{1,2} 122990-4 ^{1,2}	1320420-2 (2 Required)	122756-1 ²	Included with Machine	Included with Interface Kit
122754-4 (Used with KOMAX 43 Wire Processing System)	122990-5 ³	1320420-2 (3 Required)	122756-2 ³	Included with Machine	Included with Interface Kit
AMP-O-MATIC Stripper-Crimper Machine					
854040-3	—	856170-1 (120 VAC) 856170-2 (220 VAC)	856046-1	—	Included with Interface Kit
854040-4	—	856170-1 (120 VAC) 856170-2 (220 VAC)	Included with Machine	—	Included with Interface Kit
AMPOMATOR CLS IIIG Lead-Making Machine [Machine must have Software Version 4.12 (P/N 122429-4) or Higher.]					
<i>With Manual Precision Adjust</i>					
122500-1	122990-3 ^{1,2} 122990-4 ^{1,2}	1320420-1 (2 Required)	679915-1 ²	354531-1 (2 Required)	Included with Interface Kit
122500-2	122990-3 ^{1,2} 122990-4 ^{1,2}	1320420-1 (2 Required)	Included with Machine	Included with Machine	Included with Interface Kit
<i>With Auto Precision Adjust</i>					
122500-3	122990-3 ^{1,2} 122990-4 ^{1,2}	Included with Machine	Included with Machine	Included with Machine	Included with Interface Kit
AMPOMATOR CLS IV Lead-Making Machine [Machine must have Software Version 5.14 (P/N 224000-4) or Higher.]					
<i>With Manual Precision Adjust</i>					
217500-1	122990-3 ²	1320420-1 (2 Required)	224309-1 ²	354531-1 (2 Required)	Included with Interface Kit
<i>With Auto Precision Adjust</i>					
217500-2	Included with Machine	Included with Machine	Included with Machine	Included with Machine	Included with Interface Kit
AMPOMATOR CLS IV+ Lead-Making Machine [Machine must have Software Version 6.09 (Domestic P/N 356535-4, Europe P/N 1213900-4) or Higher.]					
<i>With Manual Precision Adjust</i>					
356500-1 1213400-1 (C€ Version)	122990-3 ²	1320420-1 (2 Required)	224309-1 ²	354531-1 (2 Required)	Included with Interface Kit
<i>With Auto Precision Adjust</i>					
356500-2 1213400-2 (C€ Version)	Included with Machine	Included with Machine	Included with Machine	Included with Machine	Included with Interface Kit

¹ Order 122990-9 or 122990-3 for Model "G" terminating machines with revision code "H" or higher; 1-122990-0 or 122990-4 for units with revision code "G" or lower. Field conversions require AMP Field Engineering assistance. Call the AMP Technical Support Center at 1-800-522-6752 for more information.

² Includes parts for two terminating units.

³ Includes parts for three terminating units.

⁴ Machine CPU Board must be replaced. Field conversions require AMP Field Engineering assistance.

⁵ Requires KOMAX 40T Conversion Kit, AMP Part Number 189992-1.

AMP Machines and Tooling for CQM Applications

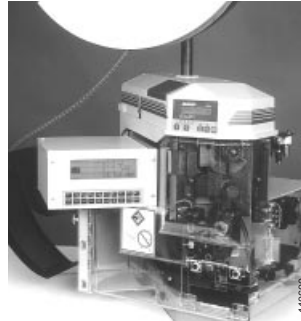
AMPOMATOR CLS IV+ Lead-Making Machine



For more information,
request Catalog 124324.

Fully-automatic machines that measure, cut, strip and terminate single leads. Microprocessor-controlled, and programmed and operated using an easy-to-follow, menu-driven touch-screen. Features include direct-drive terminating units with precision crimp height adjustment, fully programmable setups, wire runout and splice detection, and motorized pre-feed with wire straightener. Crimp quality monitoring is also available.

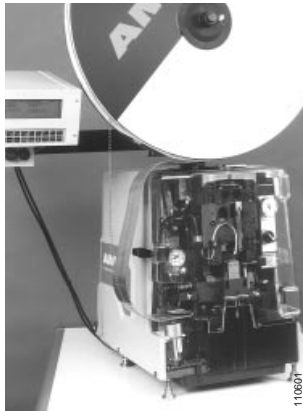
AMP-O-LECTRIC Model "G" Terminating Machine



For more information,
request Catalog 65828.

Semiautomatic bench machines for crimping reeled terminals and contacts, featuring a quiet and reliable direct motor drive, microprocessor controls for ease of setup and operation, and guarding and lighting designed for operator convenience and safety. All models are equipped with either manual or automatic precision adjustment of crimp height. Machine-mounted sensors are available for crimp quality monitoring using conventional miniature-style applicators.

AMP-O-MATIC Stripper-Crimper Machine



Semiautomatic bench crimping machines that also strip the wire, and are therefore used for terminating jacketed cable. Feature manual precision adjustment of crimp height, keyed strip blades for faster, more accurate setups, and an efficient scrap removal system. All adjustments can be made from the front of the machines without special tools. Available with crimp quality monitoring.

For more information,
request Catalog 65004.

End- and Side-Feed Heavy Duty Miniature (HDM) Applicators



These are the high-quality, long-lasting mini-style applicators used in either bench-top units or lead-making machines. They are interchangeable, and cover a wide variety of different product lines. Individually, they are capable of applying similar products over a range of wire sizes by simply dialing in wire and insulation crimp-height settings.

For more information,
contact AMP.



Printed on recycled paper.

82275—5M—ASG—FP—9-99—T13—015
Printed in U.S.A.

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