

BURNY 2.8 Plus

BURNY 2.8 Plus combines shape cutting, direct computer download, and multi-axis drive control for plasma cutting in one package



Performance Benefits

The BURNY 2.8 Plus Integrated Drive System provides companies with a complete electronics package in one cabinet, combining shape-cutting, direct computer download, and a built-in drive amplifier package in one enclosure. It is available from the Burny Division of Cleveland Motion Controls, internationally recognized as leaders in the development of controllers for the shape-cutting industry, improving productivity and reducing costs.

The BURNY 2.8 Plus offers users single-source control system responsibility and single-source reliability. It is easy to operate and offers a variety of design features to increase shape-cutting quality and accuracy, increasing productivity and reducing production costs.

The BURNY 2.8 Plus Integrated Drive System is available for use with new machinery or to retrofit older shape-cutting machines.

Design Features

The BURNY 2.8 Plus Integrated Drive System includes a fully-integrated new BURNY 2.5 Plus Shape-Cutting Control, and a fully-integrated ServoPak® pulse-width-modulated Drive System.

The BURNY 2.8 Plus integrates the BURNY 2.5 Plus Control, with a processor that is over 300% faster than its predecessor. It has 512K of part program storage. In addition, the new BURNY Plus Control uses FLASH memory instead of EPROMS, enabling users to easily connect a laptop computer and download new software or new part programs.

The BURNY 2.8 Plus Integrated Drive System is recommended for almost any shape-cutting machine with plasma cutting processes.

- Reduces costs and increases shape-cutting productivity
- Provides single-source control & drive system responsibility
- Integrates a full-featured BURNY® Plus Control that is over 300% faster; including faster processing, downloading and kerf calculation
- Incorporates a fully-integrated 2-axis drive amplifier system
- Available with an optional fully-integrated 3-axis drive amplifier system
- User-friendly

Combines shape-cutting, direct computer download, and multi-axis drive control for plasma cutting in one package



Full Function Shape-Cutting Control

The BURNY 2.8 Plus Integrated Drive System includes a fully integrated new BURNY 2.5 Plus Control, one of the easiest, fastest and most cost-efficient shape-cutting controls available today.

Numerous standard features include RS 232/422 communications and 512K of non-volatile memory, chain cutting, automatic plate alignment, a built-in library of 53 pre-programmed shapes, and an independent Jog Keypad. With the BURNY 2.5 Plus, users can create and modify their own programs and send and receive part programs from an off-line center.

Complete Electronics Package

The BURNY 2.8 Integrated Drive System includes a CNC, drive amplifiers, motors and gear reduction assemblies, cables, feedback assemblies and cabinet. The TENV enclosure also includes a full functioning operators station for tool control.

Fully-Integrated Two-Axis Drive System

The BURNY 2.8 Plus Integrated Drive System also includes a fully-integrated two-axis ServoPak® pulse-width-modulated drive system. With fast response, low power consumption, and a wide dynamic speed range, this servo drive provides reliable performance and improved cut quality. The drive amplifiers are mounted to the rear with the heat sinks external.

Available With A Fully-Integrated Optional Three-Axis Drive System

For larger gantry shape-cutting machines, the BURNY 2.8 Plus is also available with a fully-integrated and synchronized three-axis ServoPak Drive System.

CNC STANDARD DESIGN & CONSTRUCTION FEATURES

1. Includes a microprocessor-based BURNY 2.5 Plus Shape-Cutting Control with Jog Keypad. (See the BURNY 2.5 Plus data sheet for a complete listing of specifications.)
2. Membrane front panel with ISO 7287 international standard symbols.
3. Two-axis contouring control.
4. Executive stored in Flash memory.
5. State-of-the-art displays:
 - a) Full ASCII vacuum fluorescent display.
 - b) High intensity LED indications.
6. State-of-the-art IC's, LSI and VLSI
7. 50/60 Hz 115V/230V power requirement.
8. TENV cabinet.
9. 110 degree F ambient (45 degree C).
10. Sealed digital feedback encoders (optional).
11. Non-volatile part storage:
 - a) No part storage loss if power fails.
 - b) Battery backup.
12. Self check on power-up.
13. Audio indication for key pushed.

CNC STANDARD OPERATIONAL FEATURES

1. Prompting:
 - a) User-friendly in English language with other languages optional.
 - b) 16 character readout displays prompts.
2. Built-in standard straight cut mode.
3. Metric/English capability — selectable
4. Linear and circular interpolation, single block full (360°)
5. Part storage capacity: 512K non-volatile RAM
6. Choice of automatic, manual & test run with manual entry:
 - a) Selectable preheat time with override capability.
 - b) Purge delay for plasma systems.
 - c) Selection of number of parts to be cut.
7. Displays:
 - a) Absolute dimensions
 - b) Machine status
 - c) Program status
 - d) Cutting status
 - e) Digital cutting speed
 - f) Preheat/purge time delay
 - g) Memory status
 - h) Memory remaining

- i) Program length
8. Automatic accel/decel
9. Corner slowdown:
 - a) Selectable angle.
 - b) Output available to freeze plasma height.
10. Return to start position (home) and two pierce points.
11. Automatic cut row count.
12. Full backup along cut path.
13. Manual "lead-in" capability.
14. Automatic jog return to cutting path.
15. Dynamic repositioning (move over) during test or single mode.
16. XY jog control control – momentary or latching with accel/decel.
17. Single step mode – for verification of program path.
18. Selectable cutter compensation.
19. MDI (Create/Edit).
20. Tool output control (four)
21. RS-232C serial communication interface.
22. Selectable baud rate.
23. Serial communication software: Enhanced "part call-down" capability.
24. Two machine home positions.

DIAGNOSTICS & CALIBRATION

1. Memory test – verifies executive operating program and part memory.
2. Variable display of internal values for diagnostics purposes.
3. Self-calibrating of servo speed.
4. Servo loop adjustments for electro/mechanical compensation.

SERVO DRIVE FEATURES & SPECIFICATIONS

1. For low operation, (20% of maximum speed), the industry standard H-bridge mode is used, providing high torque and high gain to meet the demands of low speed contouring.
2. At high speed operation, the drive switches to "Uni-switching," resulting in lower switching losses, lower ripple current, higher gain/bandwidth, lower electromagnetic interference (EMI), less power dissipation, less motor heating, and better system response.
3. Optional feedback packages includes two encoders, two mounting brackets, two gears, and two cables.

4. Two-Axis Drive Specifications:
 - a) One complete drive included in same enclosure as CNC:
 - (2) 5 amp continuous /10 am peak PWM PC cards, including output transistors, heat sinks, and all adjustment hardware.
 - (2) (Armature and tach) cable connectors mounted on axis card.
 - (1) 30 amp power supply card.
 - (1) Unfiltered DC power supply.
 - (1) Main control relay for machine power.
 - (1) Complete wiring harness.
 - b) Two sets of cables and amp to motor/tach, including connector at amp end (maximum 20 foot standard).
 - c) Two drive assemblies consisting of:
 - (1 ea) 70 inch ounce motors with tach.
 - (1 ea) Set of reducing pulleys and belts.
 - (1 ea) 33.9:1 gearboxes (standard ratio).
 - (1 ea) Motor to gearbox mounting brackets.
 - d) Maintenance and instruction manual.
5. Optional Three-Axis Drive Specifications:
 - a) One complete drive included in same enclosure as CNC:
 - (3) 5 amp continuous /10 am peak PWM PC cards, including output transistors, heat sinks, and all adjustment hardware.
 - (3) (Armature and tach) cable connectors mounted on axis card.
 - (1) 30 amp power supply card.
 - (1) Unfiltered DC power supply.
 - (1) Main control relay for machine power.
 - (1) Complete wiring harness.
 - b) Three sets of cables and amp to motor/tach, including connector at amp end (maximum 20 foot standard).
 - c) Three drive assemblies consisting of:
 - (1 ea) 70 inch ounce motors with tach.
 - (1 ea) Set of reducing pulleys and belts.
 - (1 ea) 33.9:1 gearboxes (standard ratio).
 - (1 ea) Motor to gearbox mounting brackets.
 - d) Sine/cosine synchronization and out-of-synch detection with relay output.
 - e) Size 11 resolvers to be mounted by OEM.
 - f) Maintenance and instruction manual.

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