

SCS500

Bending Machine Controller

折弯机数控系统



Continuous Upgrading Of Core Technology

Independent Production And Design Throughout The Entire Industrial Chain

Features of SCS500

- | | |
|--|--|
| ✓ 10-inch industrial capacitive touchscreen | ✓ Hydraulic bending machine |
| ✓ Standard configuration of 4+1 axes | ✓ Fully electric bending machine |
| ✓ Support for additional expansion functionalities | ✓ Dual-pump controlled bending machine |

Technical Specifications

Overview

- Utilizes a high-sensitivity 10-inch industrial LCD touchscreen from Taiwan
- Customized EMC level 4 industrial computer board for stability and reliability
- Dual CPU system configuration for powerful computing and precise control
- Utilizes standard PLC+C Motion programming
- Supports standard EtherCAT communication expansion
- Linux operating system with support for instantaneous power failure

Safety Functions

- System pressure safety check
- Mold pressure resistance safety check
- Anti-pinch function for slide (optional safety light curtain)
- Position limit setting check function
- Deceleration when slide and back gauge approach the lower mold
- Collision check between fingers, and between fingers and mold
- Emergency stop and return functions

Editing Functions

- Products can be freely named (using letters+numbers)
- Ability to edit the customer affiliation of a product
- Product library supports storage of 2000 products
- Products support creation, duplication, searching and deletion
- Each product supports up to 100 work steps
- Work steps can be inserted, rearranged, duplicated and deleted
- Work steps support various bending methods, including free bending, position bending, bottom bending, flattening bending or large arc bending
- Support for handwheel debugging function, allowing adjustment results to be saved as work step positions
- Option to select the timing of back gauge movement
- Switch between external dimensions/internal dimensions
- Switch between block material/pallet material
- Support for delayed step change and IO step change
- Configurable activation or blocking of axis motion functions
- Adjustable axis speeds
- Customizable upper die library, lower die library and material library
- Ability to backup process parameters to USB drive

Electrical Interfaces

- Power supply voltage: DC 24V
- $\pm 0-10V$ input/output of analog signal
- Optical isolated I/O ports
- Encoder interface (differential)
- RJ45 interface
- USB interface

Auto Calculation Functions

- Automatic calculation of bending position
- Automatic calculation of bending tonnage
- Automatic calculation of large arcs
- Automatic calculation of back gauge position
- Automatic calculation of deflection compensation
- Automatic calculation of correction values
- Automatic calculation of processed workpieces
- Automatic calculation of yield rate
- Automatic calculation of lead distance

Auxiliary Functions

- Manual bending function
- Manual adjustment of axes
- Tool setting function
- Full automatic test run function
- Parameter search function
- Communication testing function
- Auxiliary input function for machine parameter adjustment
- Diagnostic monitoring function
- Online analysis function for motion curves
- Alarm notification function

Production Managements

- Support for user login with different access levels
- Support for RFID login (optional)
- Support for shift-based quantity statistics, able to calculate production quantity per shift
- Traceability of production records

Industry 4.0 Connectivity

- Support for 4G connectivity to cloud platforms
- Cloud platform capable of tracking product quantity and calculating PPH and PPM
- Cloud platform stores process data, operation records and alarm records for each product
- Support for workshop large screens to monitor machine utilization and yield rate

Expanded Functions

- Dual machine or triple machine interlinking
- Two-axis front pallet material
- Support for auxiliary multi-axis extension for loading and unloading

Controlling Functions

- Full servo control
- Position closed-loop control
- Velocity closed-loop control
- Jog control
- Handwheel control
- Synchronized positioning control

Smart Notifications

- Maintenance notifications
- Oil pump malfunction detection
- Self-learning and diagnostic capabilities for valve assemblies
- Electrical self-diagnosis

Power Calculations

- Support for power metering equipment (optional)
- Statistics of daily, monthly, quarterly and annual power consumption
- Calculation of product energy consumption