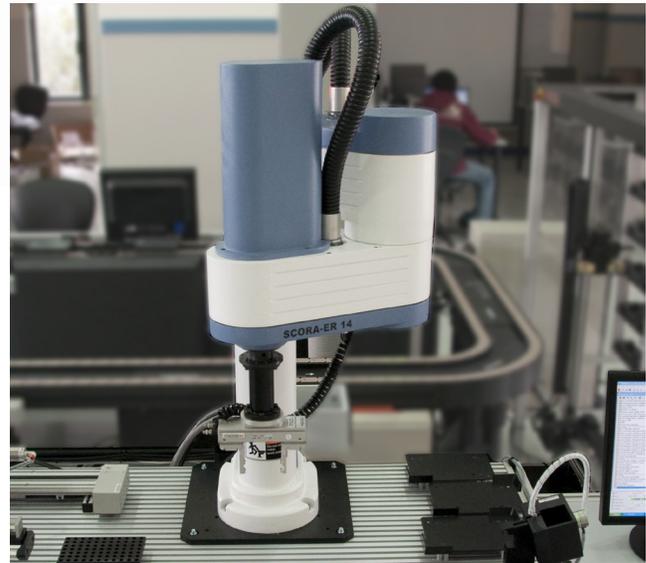


SCORA-ER 14Pro Mechanical Arm

SCORA-ER 14Pro with the state of the art USB-PRO controller facilitates PWM drive, PID control and continuous path, real-time, multi-tasking control. The programming is facilitated by a software interface while an optional hand-held teach pendant enables direct operator manipulation of robot axes and position recording as well as other functions. The ability to simultaneously control and synchronize up to 8 axes, 16 digital inputs and 16 digital outputs enables the user to have real-time control of both the robot and its application environment.

Easily integrated with peripheral equipment, the SCORA-ER 14Pro system provides the foundation for both stand-alone applications as well as robotic workstations within CIM systems.



Standard Features

- Mechanical arm
- USB-PRO Controller
- Software CD
- USB and power cables
- Documentation for all software and hardware components
- Certified for CE safety compliance.

Optional Accessories

- Teach Pendant for USB-PRO Controller
- Pneumatic gripper
- DC servo two-finger parallel gripper
- Automatic tool changer
- Multi-purpose gripper attachment for DC servo gripper

Applications (samples)

- ER14 Pro with Assembly and/or Quality control

Specifications

Mechanical structure

Horizontally articulated (SCARA), enclosed frame, 3 rotational axes and 1 translational axis

Payload Capacity

2 kg (4.4 lbs) at high speeds;
3 kg (6.6 lbs) at low speeds

Axis Movement	Range	Effective Speed	Maximum Speed
Axis 1: Rotation	288°	117°/sec	158°/sec
Axis 2: Rotation	218°	114°/sec	157°/sec
Axis 3: Translation	182°	211°/sec	333°/sec
Axis 4: Roll	527°	370°/sec	475°/sec

Reach

Min. 230 mm (9.06"); Max. 500 mm (19.69")

Homing

Optical switch plus encoder index pulse on each axis

Speed

2.8 m/sec (horizontal); 0.33 m/sec (vertical)

Actuators

24Vdc servo motor on all axes

Operating Radius

Minimum 230 mm (9.06")
Maximum 500 mm (19.69")

Transmission

Harmonic drives

Repeatability

±0.05 mm (±0.002")

Weight

30 kg (66 lbs)

Position Feedback

Incremental optical encoder with index pulse on each axis

SCORA-ER 14Pro Mechanical Arm

Robot Arm Accessories

Pneumatic Gripper for ER 14Pro	00-0634-0000
DC Servo Gripper	00-0613-0000
Automatic Tool Changer (ATC) for ER 14	ACC-ER14P-ATC
Linear conveyor	00-1010-0000
Rotary Table	00-1009-0000
Linear Positioning Table 300mm	00-1013-0000
XY PositioningTable24V	00-1014-0000

Ordering Information

Hardware

SCORA-ER 14Pro Robotic Arm	00-0432-0000
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USB-PRO Controller

Dimensions

460(L)x245(W)x140(H) mm (18.1"x9.6"x5.5")

Weight

7.5 kg (16.5 lbs)

Ambient Operating Temperature

2° - 40°C (36° - 104°F)

Type of Control

Real-time; PID; PWM

Communications

USB type A cable connection to PC

Plug and play without rebooting

Integrated RS232 for teach pendant

Microcontroller

Microcontroller ARM7TDMI Processor; 32-bit RISC Architecture with 256 Kbytes of Internal High-speed Flash

Inputs

16 digital inputs: 24V max., sink/source configurable

4 analog inputs(8-bit resolution): input voltage 0-10V

Outputs

16 digital outputs: 24V max.; 4 relays; 12 open collector, sink/source configurable; 2 analog outputs: output voltage 0-10V

LED Indicators

Main power, power on, communicating with PC; Motor on; Digital Inputs / Digital Outputs; Emergency

Control Parameters

160 parameters, many are user-accessible; Servo control PID; speed; velocity profile; axis position error; gripper operation; impact; limit protection; homing; Cartesian calculations.

User Power Supply

12 VDC (1A) and 24 VDC (2A) terminals, for connection of remote switches, sensors, etc.

Power Requirements

110/220VAC (+15%, -10%), 2A max, 50/60Hz

Internal Power Supplies

Servo: 24V (depending on input voltage & load)

Digital: 5V, +15V, -12V



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