

PROCS

Electric Control System for Harsh Environment Optimization Solution Provider

www.procs.com.cn

About PROCS · 2026

More Than PRO



Company Profile

ABOUT PROCS

MORE THAN PRO

Changsha Puluo Electrical Equipment Co., Ltd. (PROCS) was founded in 2011, a national high-tech enterprise integrating R&D, production and sales. Centered on control and drive products, the company specializes in the R&D and manufacturing of electrical control systems. Focusing on various harsh service environments, it strives to be a supplier of optimized **electronic control system solutions for harsh working conditions**.

The company boasts a full range of qualifications and honors. It has successively been awarded the titles of **Hunan Provincial Specialized, Refined, Differential and Innovative Small & Medium-sized Enterprise, Hunan Provincial Enterprise Technology Center, and Changsha Municipal Little Giant Enterprise**. Founded and held by Mr. Liu Zhanjun, the enterprise relies on an experienced R&D team and a complete supporting production system. Adhering to technological innovation and rigorous quality management, we deliver highly reliable electronic control products and customized system solutions for customers across diverse industries.



Employees

150+



Technical Staff

30%



Office Area

8200m²

Honest

Open

Passion

11

Invention
Patent

13

Computer Software
Copyright

19

Utility Model
Patent

10

Industrial Design
Patent

Environmental
Management
System Certificate



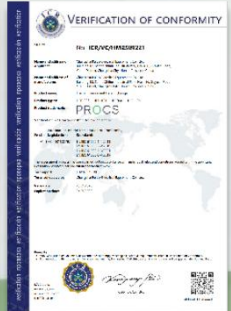
Occupational
Health & Safety
Management
System Certificate



Quality Management
System Certificate



Product CE
Certification



Key Clients & Strategic Partners

Key Clients



Strategic Partners

Scientific Testing & Verification

All products are verified via professional testing equipment to meet technical specifications.

Supporting Equipment



Environmental Testing



Electromagnetic Compatibility



IP Rating Testing



Performance Testing



Scientific Testing

01

Electromagnetic Compatibility



ESD Immunity Tester, Electrical Fast Transient Burst Immunity Tester, Lightning Surge Immunity Tester

Covers ESD, EFT, Surge three major immunity tests, compliant with GB/T 17626 standards.

02

Environmental Testing



Programmable Temperature & Humidity Chamber, UV Aging Test Chamber, Vibration Test Bench

Supports temperature-humidity cycling, accelerated UV aging, sine/random vibration tests.

03

IP Rating Testing



Vacuum Sealing Performance Tester, IPX6 Standard Water Spray Gun, IPX7 Standard Immersion Tank

Verifies air tightness, heavy water splash resistance, short-term water immersion protection grades.

04

Performance Testing



Cable Bending Tester, Tensile Tester, Continuity Test Bench, Motor Dual-drive Test Platform

Tests bending fatigue life, mechanical strength, electrical continuity and motor performance parameters.

Corporate Positioning

Optimization Solution Provider for Electric Control Systems in Harsh Environments



Electronic Control Products

Controllers, display, remote controllers, etc



Integrated Injection-Molding Harness System

Pioneered in the construction machinery industry (launched in 2020)



Control Cabinets

Variable frequency cabinets, low-voltage control cabinets

Electronic Control Products

- **Harsh Environment Computers**
HEC1020
HEC3000
- **Harsh Environment Controllers**
HEC0204
HEC0110
HEC0118
- **Harsh Environment Displays**
HED1005
HED1007A
HED1007B
HED1107A
HED1107D
HED1107E
HED1107F
- **Harsh Environment IO Modules**
HEM1601C HEM2001C
HEM6801E
HEA1001C Voice Module
- **Harsh Environment Bus Panels**
HEK1008C
HEK1012C
HEK1016C
- **Harsh Environment Remote Controllers**
HER1008D
HER1010D
- **Harsh Environment Gateway Modules**
HEE1004
HEE1206
HEE2005
HEE1212
- **Harsh Environment Inductive Sensor Injection Molded Connectors**
HES1808LR18X
HES3015LR30X

Integrated Injection-Molding Harness System

- **TE-DT Series**
DT06-2S
DT06-2S-CE06
DT04-2P
DT06-3S
DT04-3P
DT06-4S
DT04-4P
DT06-6S
DT04-6P
DT06-08SA
DT04-08PA
DTM04-12PA
DTM06-12SA
DTM06-12SA
- **TE-AMP Series**
282080-1
282104-1
282087-1
282105-1
282088-1
967325-1
282089-1
282107-1
776164-1
- **AMPHENOL Series**
GTC06-20-23P
LPT06OM-16-8S
LPT06OM-18-5S
PT06SOM-12-10S
PT01SOM-12-10P
- **ITT Series**
132015-0195
121587-0091
121587-0086
192900-0078
132025-007PL
192900-0055
- **HULANE Series**
ZT-A-CZ-2-3-18
03404004AAB
- **M12 Series**
ZSE00112723
ZSE00111577

Control Cabinets

- **Multi-machine High-power Air-cooled Drive Control System**
- **Multi-machine High-power Water-cooled Drive Control System**



01

Electronic Control Products





Production System

Electronics Workshop

All self-developed electronic products are fully compatible with integrated injection molding harness systems.



Product Features

All self-developed electronic products are fully compatible with integrated injection molding harness systems.

Real-time
Online (Cloud
Computing)

On-site operation & maintenance is inconvenient or dangerous, so manufacturers and end users demand remote real-time monitoring & maintenance systems.
Our products support real-time remote data transmission, remote software upgrade and debugging.

Mass Data
Storage (Big
Data)

The system generates massive historical operational and environmental sensing data. In-depth analysis of historical data delivers great value for host equipment quality and process optimization.
Our hardware supports large-capacity data storage, transmission and processing.

Flexible
Development
(Intelligentiza
tion)

Compliant with IEC61131-3 mainstream industry development environment. Equipped with multi-core heterogeneous CPU + NPU, delivering hardware acceleration for deep learning (HEC2020 and above models). Supports Python, Go other development environments for deep learning and network collaboration scenarios, enabling flexible software/system development and debugging.

Compatible
with Injection
Molding
Harness
System

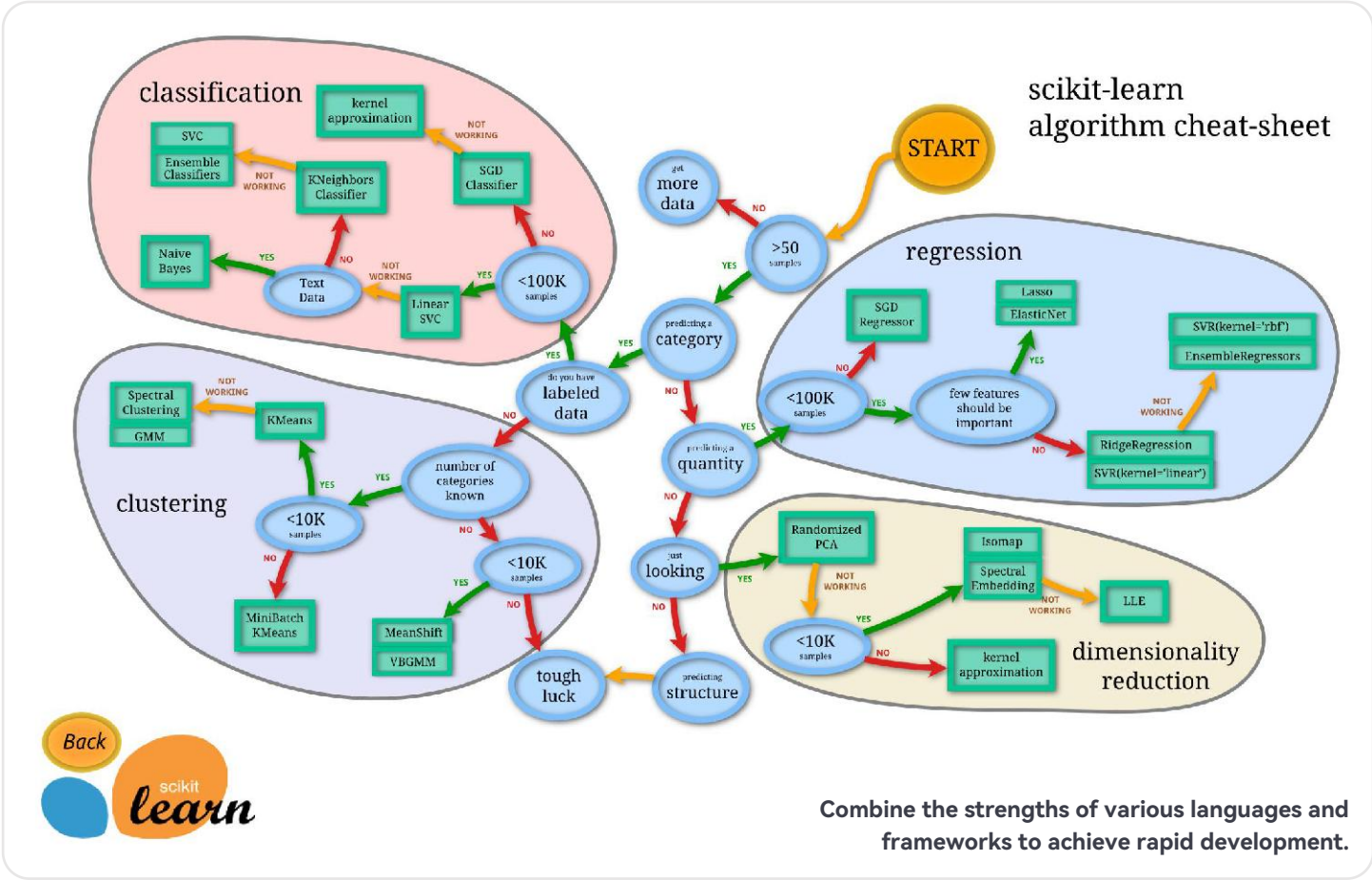
IP67 protection grade, outstanding connection reliability and stability; simplified production with fewer quality control points
superior full-lifecycle cost efficiency and lower after-sales cost.

Main electronic products

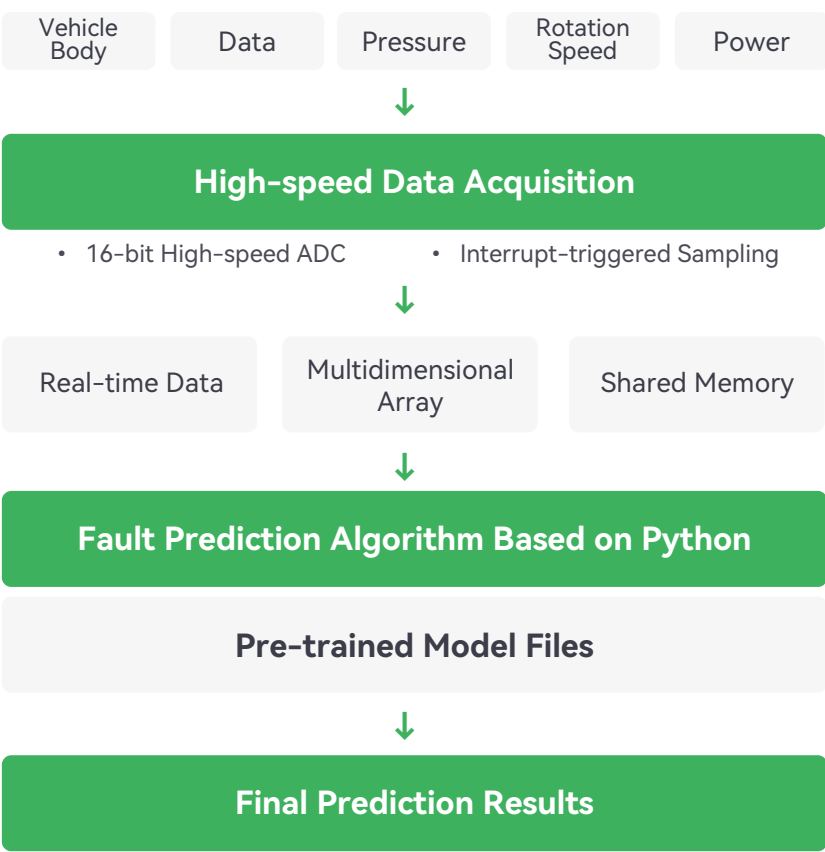


Deep Learning Application

Deep Learning Application on SANY Fracturing Truck

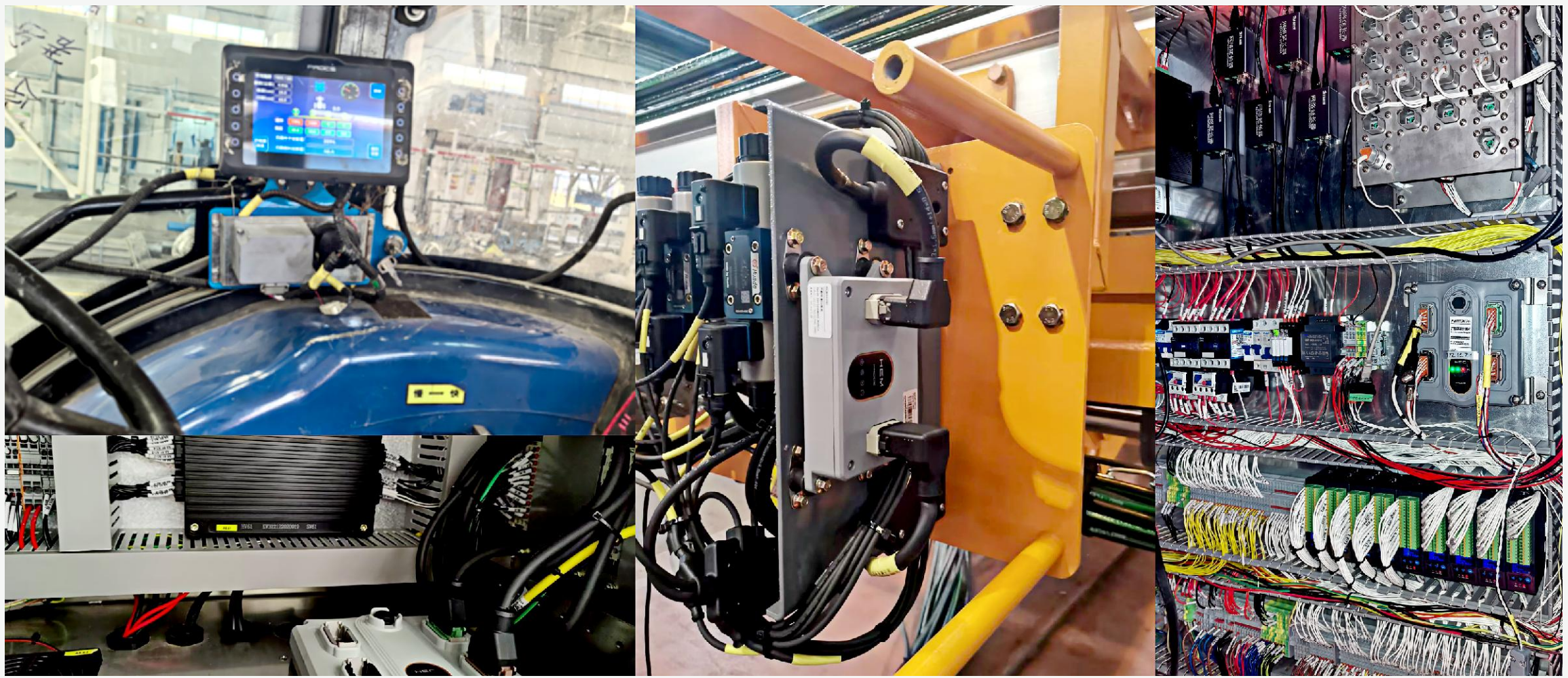


Technical Architecture Flow



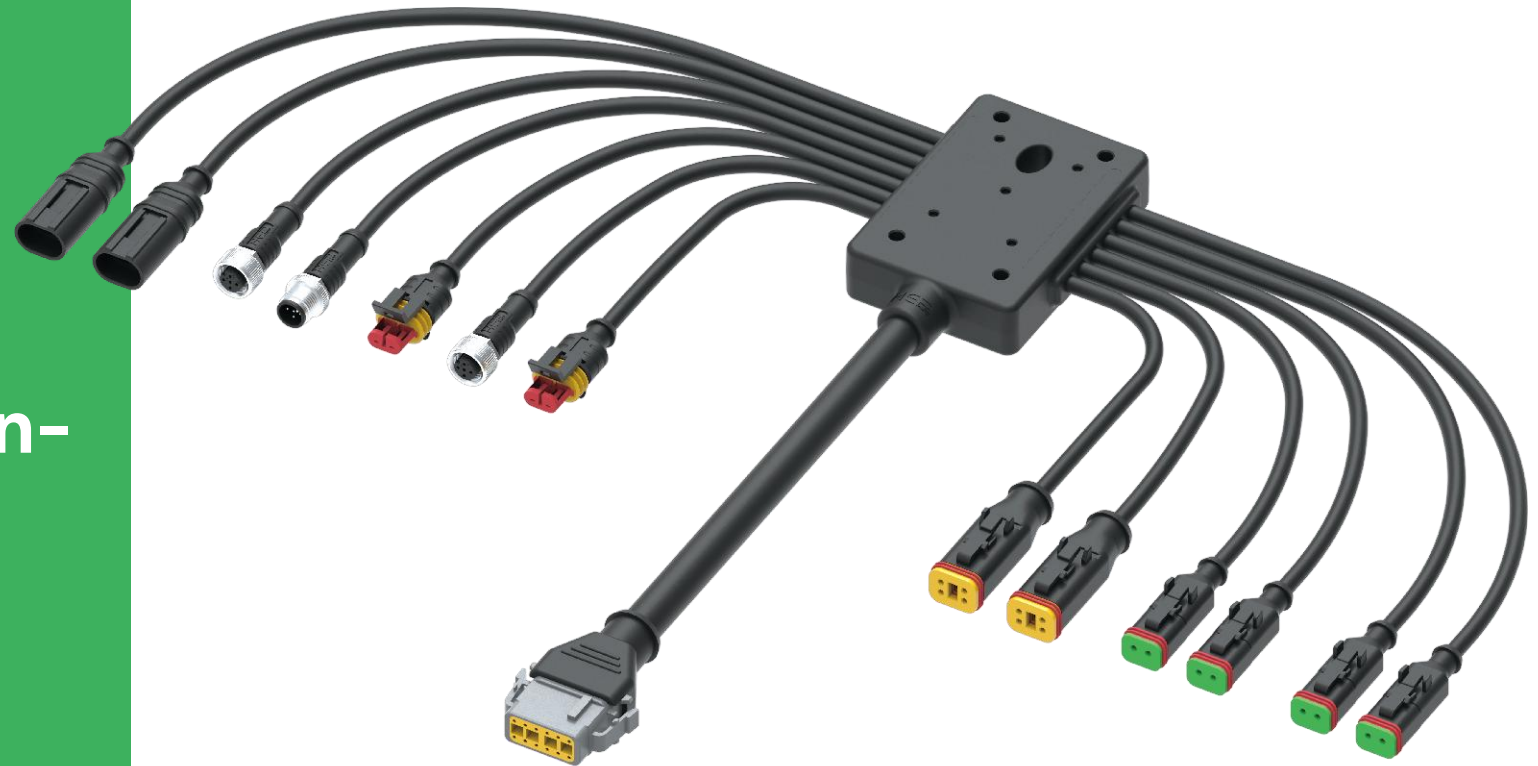
Solution Application

Obvious advantages in reliability and stability



02

Integrated Injection- Molding Harness System



Core Competencies

Material



High-performance insulation materials including PP, PVC, TPU (PUR), featuring excellent electrical insulation and temperature resistance

Machine



High-precision injection molding equipment for precise temperature & pressure control; automated assembly lines to boost efficiency, reduce human error and improve product consistency.

Method



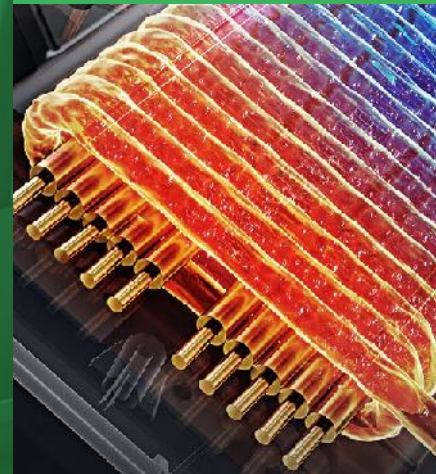
Advanced multi-cavity injection molding processes; strict in-process quality control including electrical performance test, voltage withstand test, tensile test.

Measurement



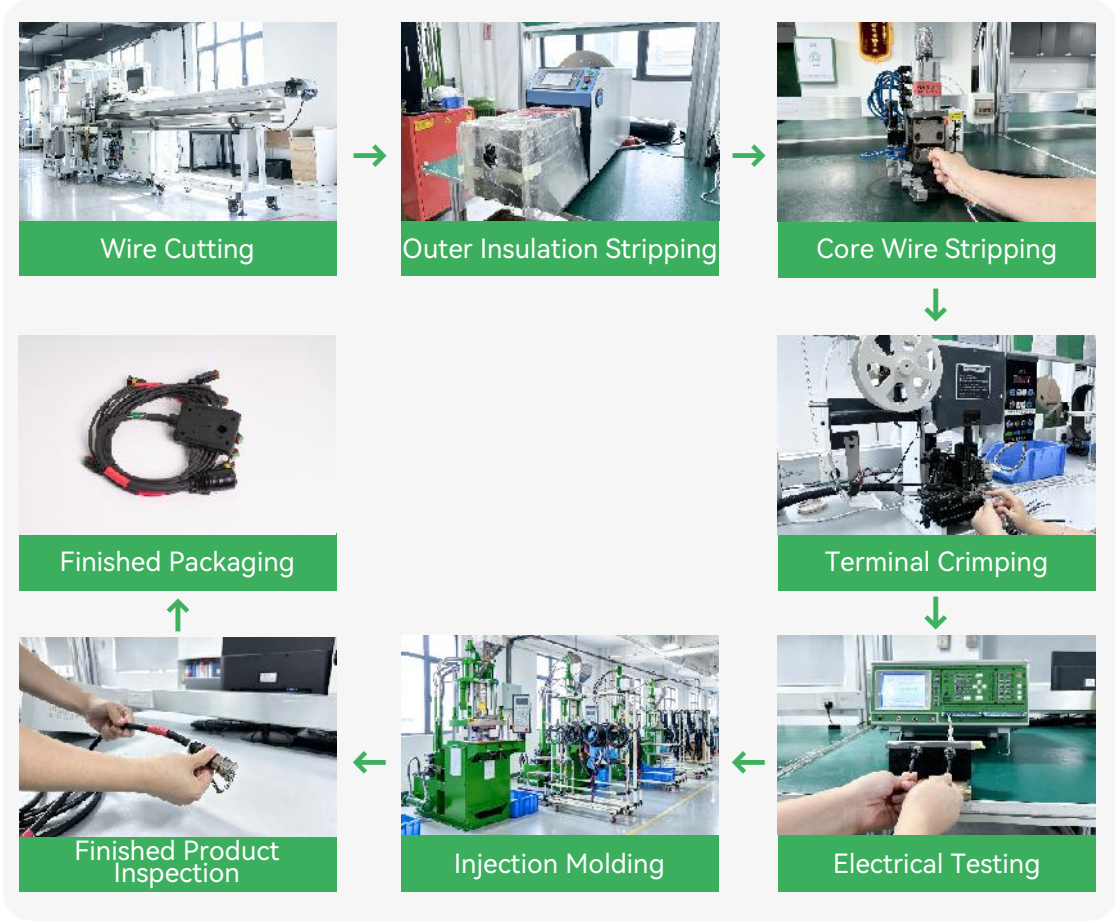
Precision measuring equipment for dimensional control; electrical performance testing (resistance, insulation impedance) to guarantee reliability.

Environment



Stable and durable under extreme high temperature, high humidity and other harsh environments.

Production System



Manufacturing Capacity

Workshop Area	1,300 m ²
Production Base	Changsha, Hunan
Production Lines	Four independent production lines are specially equipped for manufacturing construction machinery wiring harnesses, capable of fulfilling diverse harness production requirements.

Process Capability

Staff	There are 10 process engineers and 40 production staff; most employees possess 3–4 years of professional experience and mature craftsmanship.
Machine	Automated equipment is adopted throughout the production process, with a full range of testing equipment available.
Material	An independent incoming material inspection procedure is established, supported by a complete and sound supply chain system.
Method	Work instructions and inspection standards are posted and accessible on the production site.

Product Features

Product Features

- **Protection rating: IP67**

Outstanding advantages in connection reliability and stability.



- **Core Material: TPU cable & connector injection molding material**

Operating temperature range: $-40^{\circ}\text{C} \sim 105^{\circ}\text{C}$; resistant to corrosion by diesel, coolant, hydraulic oil and other fluids; excellent UV resistance; flexible and lightweight.



- **Simple production process**

Fewer quality control points during processing.



- **Exquisite appearance**

Easy installation.



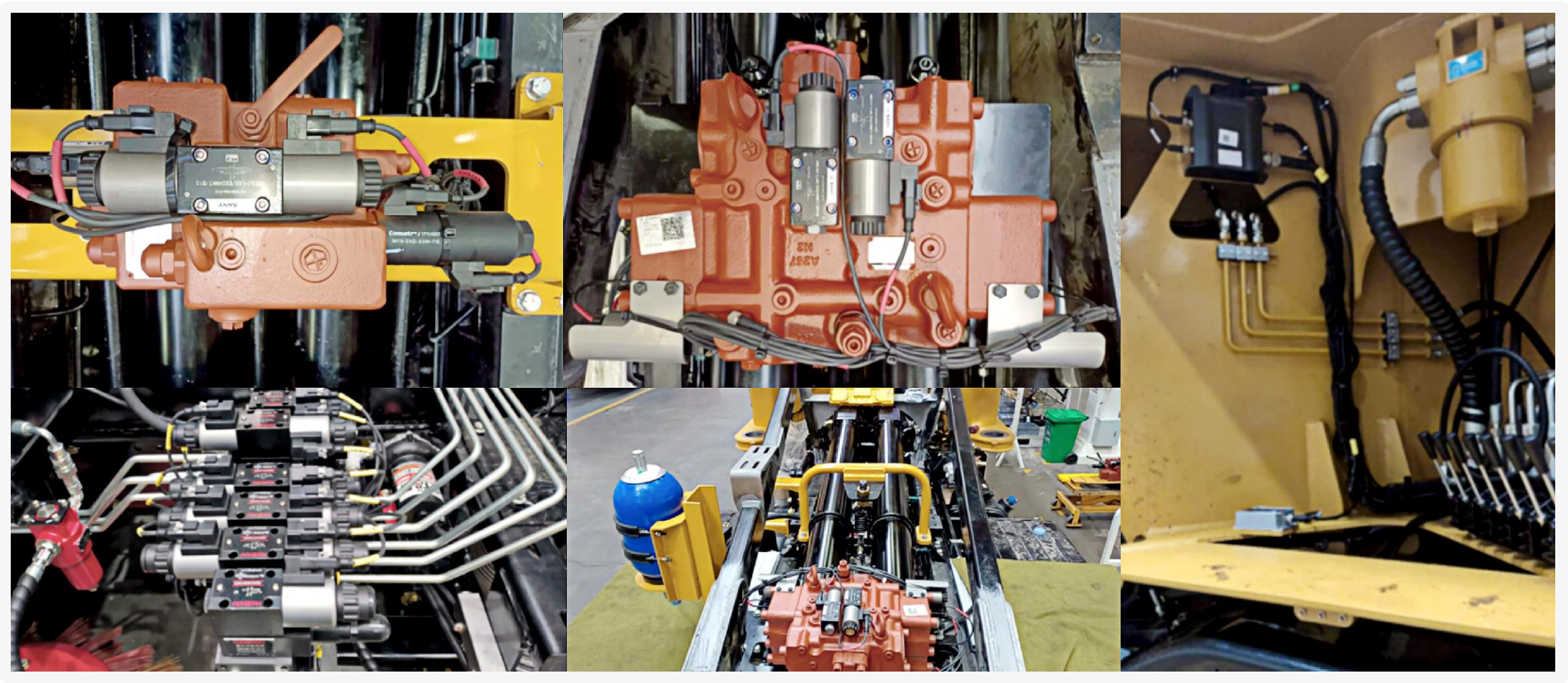
- **Excellent cost efficiency over the full product lifecycle**

Low after-sales maintenance costs.



Solution Application

High reliability and stable performance



Application Cases



>3000 Sets
Concrete Pump Truck
Industry First

Full-vehicle injection molding
harness application
95% Reduction in
Harness Failures



>2000 Sets
Fire
Equipment



>1000 Sets
Agricultural
Machiner



>200 Sets
Mining
Machiner



>300 Sets
Sanitation
Machiner

03

Control Cabinet Products



Core Competencies

Electric control cabinet system integration and manufacturing

01 Customized Design



Supports diverse modular layouts to maximize installation space utilization and accommodate special wiring requirements.

02 Wide Range of Application Industries



Manufacturing, energy (wind power, solar power), transportation (rail transit, vehicle control), building automation.

03 Intelligence & Digitalization



Integrates IoT technology to enable remote monitoring and intelligent control, improving equipment autonomy and operational convenience.

04 Diverse Functional Integration



Sensor interfaces, PLC, HMI, communication modules (RS485, Ethernet, etc.), protection and monitoring devices.

05 High Environmental & Energy Efficiency Standards



Complies with stringent environmental and energy efficiency standards. Optimized energy consumption and thermal management minimize the environmental impact of equipment operation.

06 Safety & Reliability



The control cabinets conform to various safety standards, with optional composite materials, redundant design, explosion-proof design and other configurations.



Production System

Electrical Workshop

ISO9000 & 6S management
guarantee stable quality
and timely delivery.



Product Features

Main Control Cabinet Products



Product Features

- 01

High Safety & High Reliability
Our control cabinets comply with various safety standards and adopt composite materials as well as explosion-proof designs.


- 02

Integrated Control System
It builds an efficient, flexible and intelligent manufacturing system.


- 03

Years of Experience Across Multiple Working Conditions
We provide mature, reliable and abundant application solutions.


- 04

Customized Design
Supports various modular designs to make full use of installation space.



Application Fields

The integrated injection molding harness system fully complies with design specifications.



Tunnel Boring



Port Lifting



Lithium New Materials



Outdoor Belt Conveyors



Mining Loading Equipment

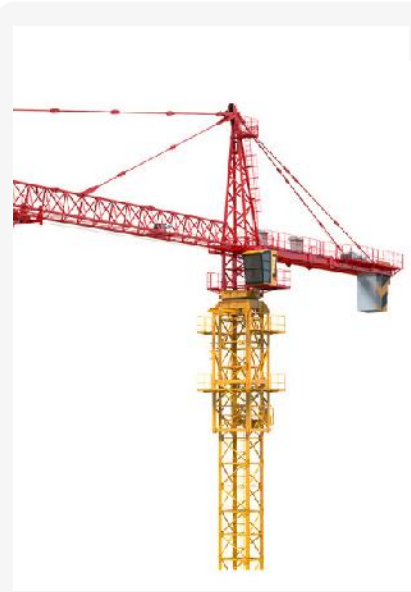


Solution Application

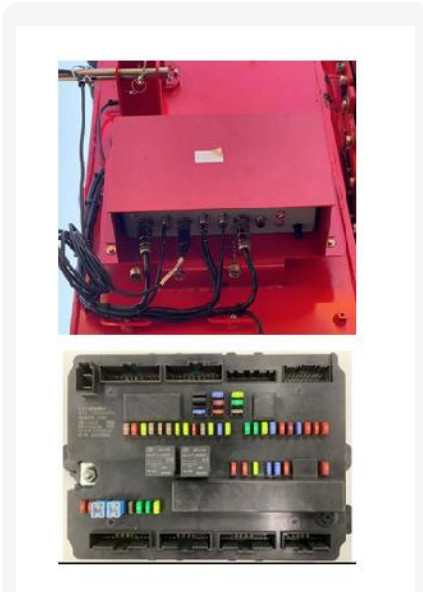
Mature and Reliable Application Solutions



**Liquid Cooling Systems for
Battery Swap Stations**



**Tower Crane Electric
Control Systems**



**Vehicle Body Power
Distribution Boxes,
Distributed Systems**



**Pump Truck Distributed
Control Systems**



**Hybrid High-Voltage Power
Distribution Systems for
Pump Trucks**



Strategic Partner Product Applications

We cooperate with numerous top domestic and global supply chain suppliers to create shared value for our products and clients.



**The future is full of imagination,
and our products and
services are continuously upgrading!**

