DUCO Robots



DUCO GCR
SERIES ROBOT

Embodied Intelligence for Smart Manufacturing

09
2026

ABOUT DUCO

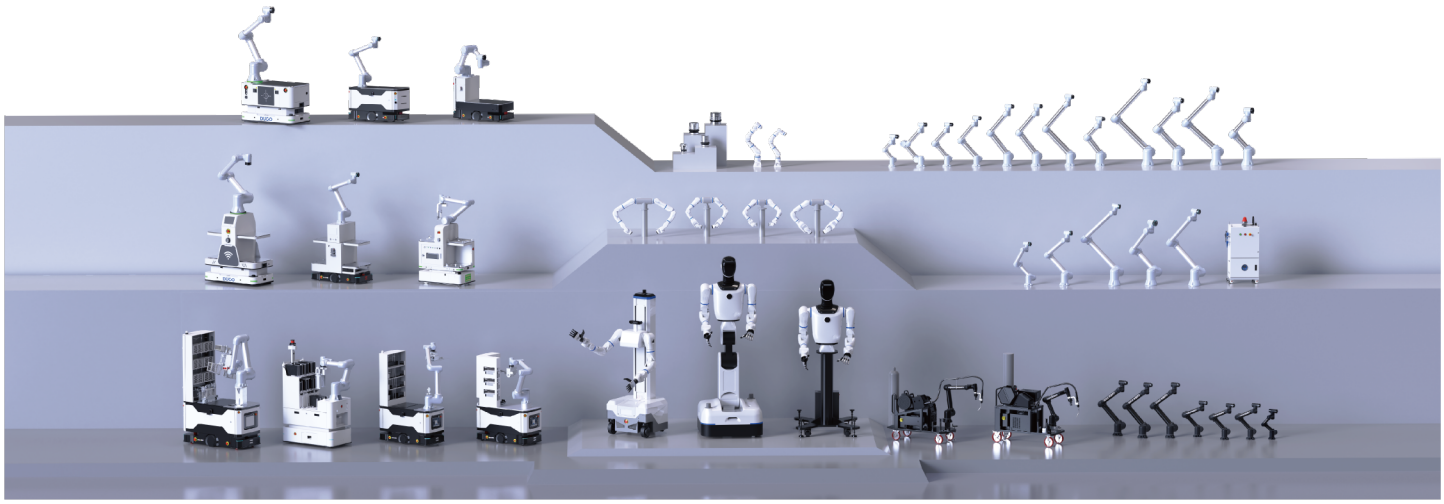
With 30 years of industrial expertise, DUCO is a robotics technology company dedicated to advancing intelligent manufacturing through embodied intelligence. By integrating advanced robotics, intelligent algorithms, and proprietary technologies, DUCO enables manufacturers to achieve smarter, more flexible, and efficient production. Based in Shanghai with a global presence, DUCO is committed to delivering world-class robotics built on international standards and uncompromising quality. Certified for functional safety compliance by TÜV SÜD Germany, DUCO partners with manufacturers worldwide to advance the future of human-robot collaboration.

5000+
Projects Experience

300+
Patents

120+
Invention Patent

40+
Robot Types



GLOBAL LOCATION



SHANGHAI(Headquarter): Block 4, No.358 Jinhu Road, Pudong District, Shanghai.

Thailand: 112 Moo 2, KM. 15 th Bangna-Trad Rd, Bangchalong, Bangplee, Samutprakarn.

Malaysia: 1050708 Jalan Gurdwara hexagon tech park 10300 george town pulau pinang.

Singapore: 3A International Business Park, Tower B #08-18, Singapore.

Germany: Austraße 58, 71642 Ludwigsburg, Stuttgart.

Mexico: piso 5 oficina 518 avenida miguel hidalgo 330 monterrey centro monterrey nuevo leon.

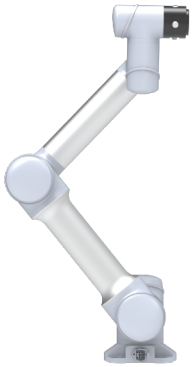
America: 2021 Guadalupe Street, Suite 260, Austin, Texas.

Japan: 4F, 3-chōme-19-12 Nishishinbashi, Minato City, Tokyo

PRODUCT INTRODUCTION

This series covers more than ten general-purpose 6-axis collaborative robots with payload capacities ranging from 3 to 30 kg and reach ranges from 618 to 2,000 mm. With the highest industry safety rating for the complete machine, these robots deliver safe, precise, and flexible collaborative capabilities. They are widely used in industries such as automotive, electronics, metalworking, semiconductors, healthcare, power, and new energy, covering a full range of applications including loading and unloading, assembly, tightening, dispensing, inspection, and grinding, helping customers build stable and efficient intelligent production lines.

PRODUCT FEATURES



Enhanced Security

· Equipped with 17 built-in safety functions, including force/power limiting and collision detection, enabling fenceless deployment.

· Core safety modules are certified to IEC 61508 SIL3 and ISO 13849-1 PLe/Cat.3.

· The whole robot complies with GB 11291.1 (ISO 10218-1), and is the first in China to pass IEC 61508 functional safety standard certification.

· The product has obtained CR, CE, cTÜVus, KCS, RoHS, and other certifications, ensuring worry-free global deployment.

[Customer Value]: Fenceless deployment and complex safety modifications are no longer required, making production lines more compact and reducing deployment costs.

Superior Performance

· Repeat positioning accuracy up to ±0.02 mm across the entire series (ISO 9283).

· Maximum end-effector speed: 1.5–3.8 m/s, with speed fluctuation of 5%.

· Stable performance backed by ten years of R&D iterations and validated in thousands of application scenarios.

[Customer Value]: Superior performance and reliable stability effectively help customers improve production line yield.

Exceptional Intelligence

· Rich peripheral interfaces: AI/AO/DI/DO, TCP/IP, Modbus TCP, Profinet, EtherNet/IP.

· Complete ecosystem support, with secondary development supported via ROS2 / Python / C++ / C#.

· Plug-and-play peripherals such as vision systems, force control, and grippers, effectively shortening integration cycles.

· Supports cloud-based data monitoring and remote OTA upgrades, enabling continuous equipment iteration and optimization.

[Customer Value]: Seamlessly integrates into factory digital systems, empowering customers' digital and intelligent manufacturing.

User-Friendly

· Drag-and-teach programming, with the first task completed in as fast as 10 minutes.

· 4 hours of training enables entry-level programming; 0.5 days enables independent operation.

· Graphical + script programming combines ease of use and flexibility, greatly improving programming efficiency compared with traditional industrial robots.

[Customer Value]: Reduces reliance on specialized personnel, shortens project delivery cycles, and able to quickly respond to process changes.

Eco-Friendly

· Low power consumption and high energy efficiency, with typical power consumption as low as 200 W.

· No lubricant replacement required for life, reducing maintenance costs by 40%+.

· Low noise operation <65 dB, suitable for cleanrooms and human-adjacent environments.

[Customer Value]: Low consumption and easy maintenance, supporting dual-carbon goals, reducing environmental assessment and energy costs, and meeting customers' sustainable development needs.

SELF-MADE ROBOTIC JOINT

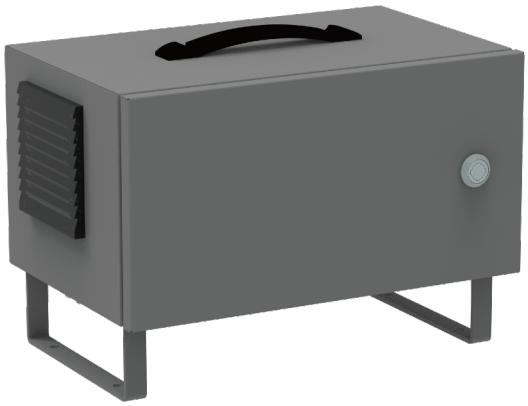


≥110 Nm/kg	≥510 W/kg	<1/12°	≥75%
Max. Torque	Max. Power Output	Position Control Accuracy	Max. Efficiency

- Built-in Absolute & Incremental Encoders
- Electromagnetic Motor Brake

CONTROL SYSTEM

Control Box (DC15S/30D)



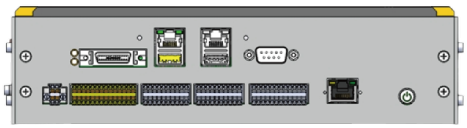


- 5-in-1* control box with extensive lifetime, lower risks of short circuits and wiring failures.
- New generation control box is 22.5% smaller and 30% lighter (Compared to previous generation).
- Improved EMC performance and IP54 protection with optimized cooling.

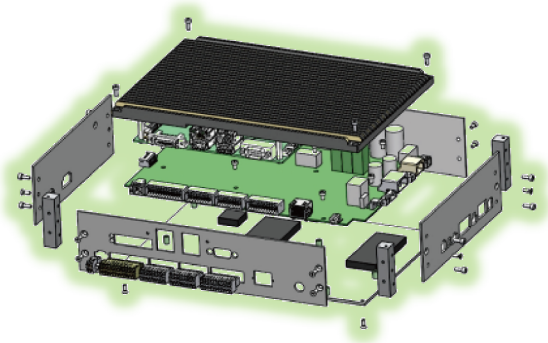
* ■ Safety Control ■ Communication ■ Motor Braking ■ Input/Output ■ Power Management

Technical parameters	GCR3-618 GCR10-1300	GCR5-910 GCR12-1300	GCR7-910 GCR16-960	GCR16-2000 GCR25-1800	GCR20-1400 GCR30-1100
Input Power Supply	100-240VAC(47-63Hz) 10A			220-240VAC(47-63Hz) 10A 100-240VAC(47-63Hz) 16A	
IP Class	IP54				
Communication Interface	EtherCAT、Ethernet/IP、Modbus/TCP、CAN、TCP/IP、RS-485、Profinet、External Encoder、WIFI (Optional).				
I/O Interface	2AI/2AO, 4*SDI/3*SDO、16DI/16DO (PNP, 24V/Max 500mA), Among which 8DI/8DO can be configured				
Size	252x390x275mm				
Weight	10.5kg			10.6kg	

Independent Controller (DC00)

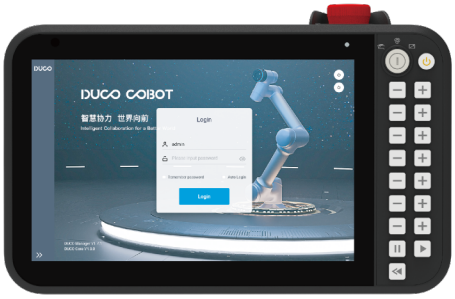






Technical parameters	
Size	252×173×67mm
Weight	2.5kg
Power Input	DC48V(42-59.2V) DC24V (22-26V)
Power Consumption	100W

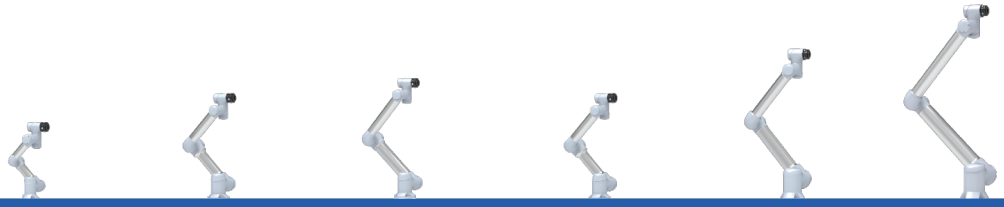
Teach Pendant



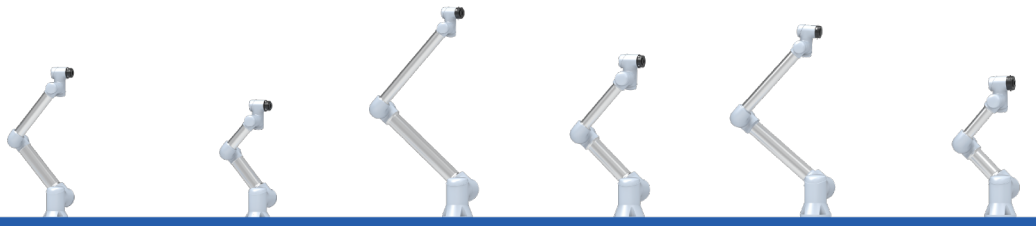


Technical parameters	
Overall Dimension	300×196×99mm
IP Class	IP65
Screen Size	10.1 inches
Screen Resolution	1280*800@60Hz
Weight	1.1kg
USB port	●

PRODUCT PARAMETERS



	GCR3-618	GCR5-910	GCR5-1100	GCR7-910	GCR10-1300	GCR10-1600
Max Payload	3kg	5kg	5kg	7kg	10kg	10kg
Degree of Freedom	6	6	6	6	6	6
Max TCP Speed	2.4m/s	3.6m/s	3m/s	3.2m/s	3.8m/s	3.3m/s
Max Straight-line Speed	0.8m/s	1.5m/s	1.5m/s	1.5m/s	1.5m/s	1.5m/s
Reach	618mm	917mm	1100mm	917mm	1300mm	1600mm
Repeatability Accuracy	±0.02mm	±0.02mm	±0.03mm	±0.02mm	±0.03mm	±0.05mm
Joint Range	Max Speed					
Wrist 1/2/3 ±360°	225°/s	225°/s	225°/s	225°/s	225°/s	225°/s
Elbow ±360°	225°/s	225°/s	225°/s	225°/s	225°/s	200°/s
Shoulder ±360°	225°/s	225°/s	225°/s	200°/s	180°/s	150°/s
Base ±360°	225°/s	225°/s	225°/s	200°/s	180°/s	150°/s
Typical Power Consumption	200W	200W	300W	200W	400W	500W
Robot Mounting	Ceiling / Floor / Wall / Inclined					
Robot Package Size	532x431x330mm	698x588x450mm	761x356x438mm	698x588x450mm	958x508x516mm	1048x454x473mm
Net/Gross Weight	13kg/20kg	22kg/30kg	23kg/31kg	22kg/30kg	37.8kg/46kg	39.6kg/50kg



	GCR12-1300	GCR16-960	GCR16-2000	GCR20-1400	GCR25-1800	GCR30-1100
Max Payload	12kg	16kg	16kg	20kg	25kg	30kg
Degree of Freedom	6	6	6	6	6	6
Max TCP Speed	3.8m/s	3.0m/s	3.5m/s	2.2m/s	2.5m/s	2.0m/s
Max Straight-line Speed	1.5m/s	1.5m/s	1.8m/s	1.5m/s	1.5m/s	1.0m/s
Reach	1300mm	960mm	2000mm	1400mm	1800mm	1100mm
Repeatability Accuracy	±0.03mm	±0.03mm	±0.05mm	±0.05mm	±0.05mm	±0.05mm
Joint Range	Max Speed					
Wrist 1/2/3 ±360°	225°/s	225°/s	225°/s	225°/s	225°/s	225°/s
Elbow ±360°	225°/s	225°/s	180°/s	180°/s	150°/s	180°/s
Shoulder ±360°	180°/s	180°/s	120°/s	120°/s	100°/s	120°/s
Base ±360°	180°/s	180°/s	120°/s	120°/s	120°/s	120°/s
Typical Power Consumption	500W	400W	600W	600W	600W	600W
Robot Mounting	Ceiling / Floor / Wall / Inclined					
Robot Package Size	958x508x516mm	958x508x516mm	1465x516x472mm	1060x500x600mm	1295x540x515mm	1060x500x600mm
Net/Gross Weight	37.8kg/46kg	37kg/45kg	60kg/68kg	66kg/75kg	61.6kg/70kg	64kg/75kg

IP Classification (IEC 60529: 2013)	IP54 (IP65 Optional)
Ambient Temperature Range	-10°C~50°C
Storage Temperature Range	-40°C~55°C
Cleanroom Level (ISO 14644-1)	ISO Class 5 (Class3 Optional)

END OF ARM TOOLING(EOAT) FLANGE

Integrated Direct Teaching Function:

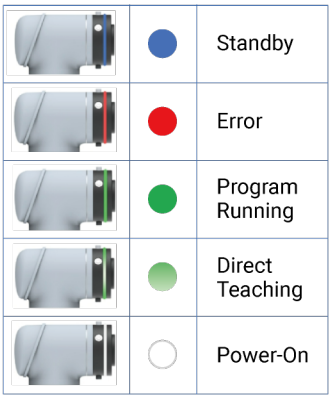
Embedded T/S buttons for direct teaching function.
End I/O Port: 2DI, 2DO, EtherCAT, RS485
T-Direct Teaching
S-Save Points

High Ampere output for EOAT:

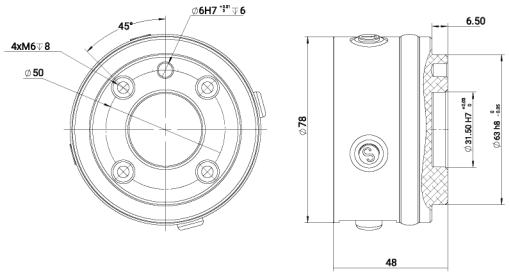
Standard 8-PIN 2DI/2DO RS485 connector **(Single-Channel) up to 24V@500mA**, 6-PIN EtherCAT connector **up to 24V@250mA**.



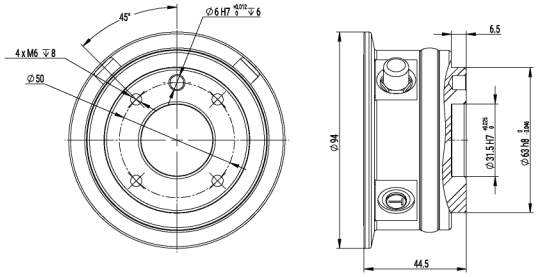
Colorful LED Indicator:



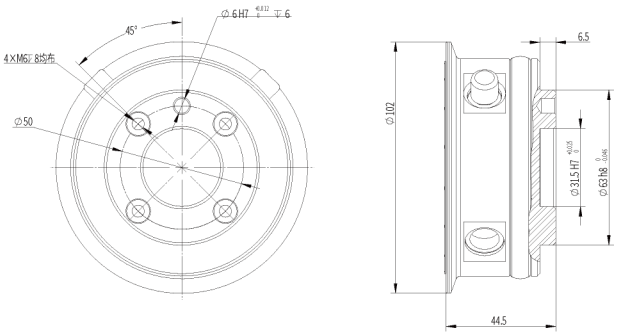
EOAT FLANGE



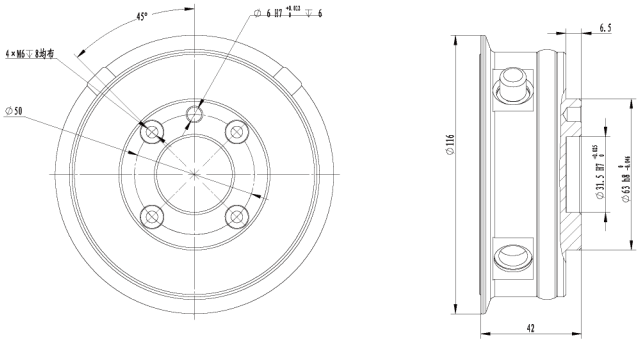
GCR3-618/GCR5-910/GCR5-1100/GCR7-910



GCR16-960/GCR10-1300/GCR10-1600
GCR12-1300/GCR16-2000



GCR25-1800



GCR30-1100 / GCR20-1400

USER INTERFACE

DI	
User DI	16 channels (8 of which can be configured as functional DI)
Input Active Level	PNP type, L:-3V-5V,H:11V-30VDC,2-15mA
Switching Time	TON:50ms TOFF:50ms

DO	
User DO	16 channels (8 of which can be configuredas functional DO)
Output Voltage	PNP type, 22–28V, Max: 0.5A
Output Current	PNP type: <2A (when exceeding 2A, an external power supply is required)
Switching Time	TON:50ms TOFF:50ms

AI/AO		
Analog Voltage Input: 2 channels	Input Voltage Signal	0-10V ±1% Accuracy
	Input Impedance	48KΩ
	Resolution	12-bit
Analog Voltage Output: 2 channels	Output Voltage Signal	0-10V ±1% Accuracy
	Resolution	12-bit

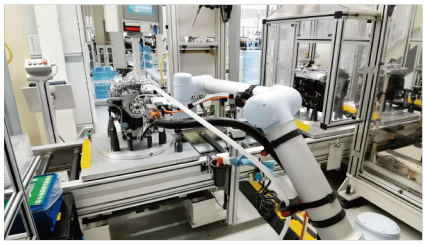
SDI	
Emergency Stop Signal Input	1 channel (passive signal, dry contact input)
Protective Stop Input	1 channel (passive signal, dry contact input)
Configurable Safety Input	2 channel (passive signal, dry contact input)

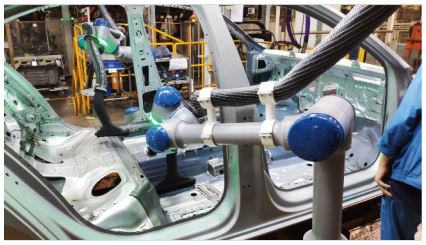
SDO	
Configurable Safety Output	2 channels (PNP active signal)
Emergency Stop Feedback Output	1 channels (PNP active signal)
Output Voltage	23.52V–25.2VDC (Max 0.5A, with short-circuit protection)

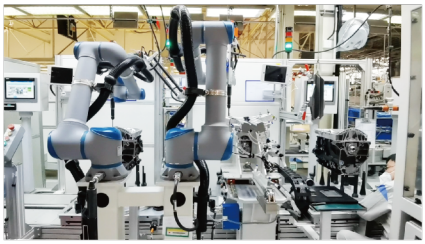
COM	
CAN	1 channel, configurable baud rate: 10k, 20k, 50k, 100k, 125k, 250k, 500k, 1000k bps
RS485	1 channel, configurable baud rate: 4800, 9600, 19200, 38400, 115200 bps
LAN	1 channel Gigabit, supporting MODBUS TCP, PROFINET, TCP/IP
EtherCAT	1 channel, EtherCAT communication
INC A+, A-; B+,B-;Z+,Z-	Operating Voltage: 24VDC Frequency: <200KHz Input: Square Wave Signal

APPLICATIONS

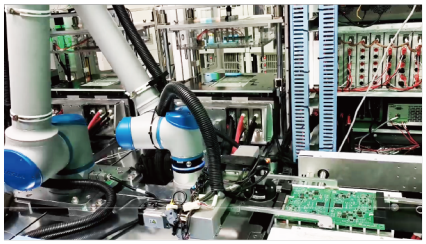

Electric Drive Assembly Bolt Feeding


Automatic Blow-Feeding and Tightening


Automotive Interior Cleaning

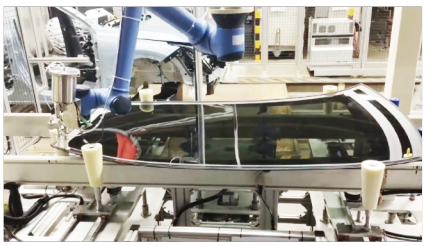

Oil Pan Tightening

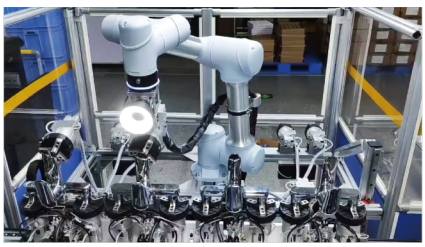

Automotive Battery Pack Tightening


PCB Handling

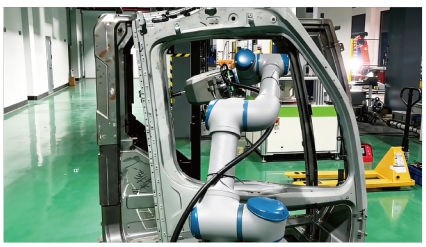

CPU Assembly


Engine Repair Tightening & Dispensing


Automotive Roof Glazing Oil Application

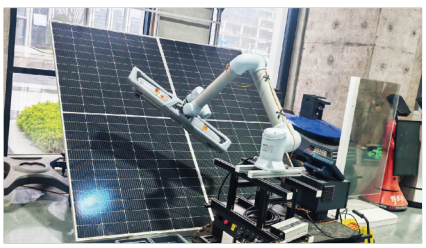

Faucet Airtightness Testing


Rail Transit Motor Vision Inspection


Automotive Door Frame Inner Side Grinding


Machine Tool Loading and Unloading


High-Rise Facade Cleaning


Photovoltaic Panel Cleaning

DUCO ROBOTS CO.,LTD.

Headquarter: Block 4, No.358 Jinhu Road, Shanghai, China
Factory: No. 199 Boyi Road, Shanghai, China
marketing@ducorobots.com

400 088 5288