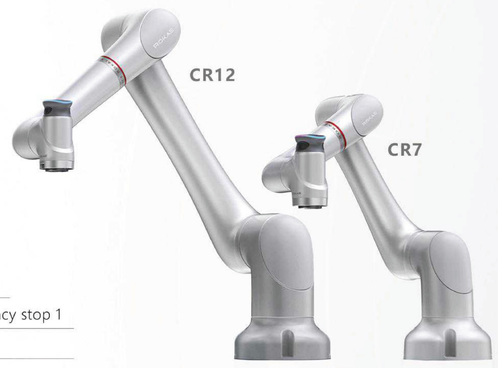
CR Series
Specifications

	CR7		CR12	
Specifications				
Payload	7 kg		12 kg	
Reach	850 mm		1,300 mm	
Weight	21 kg		35 kg	
Degrees of freedom	6 revolute joints		6 revolute joints	
Rated life	≥ 35,000 h		≥ 35,000 h	
Power supply	DC 48V		DC 48V	
Programming	Direct teaching control and graphical interface		Direct teaching control and graphical interface	
Performance				
Power consumption	Average	Peak	Average	Peak
	500 w	1,500 w	600 w	2,000 w
Safety	≥ 20 adjustable safety features		≥ 20 adjustable safety features	
Certification	Compliant with EN ISO 13849-1, Cat.3, PL d and EU CE marking requirements		Compliant with EN ISO 13849-1, Cat.3, PL d and EU CE marking requirements	
Force sensing (tool flange)	Force, x-y-z	Torque, x-y-z	Force, x-y-z	Torque, x-y-z
Force measurement resolution	0.1 N	0.02 Nm	0.1 N	0.02 Nm
Relative accuracy of force control	0.5 N	0.1 Nm	0.5 N	0.1 Nm
Adjustable range of Cartesian stiffness	0~3,000 N/m, 0~300 Nm/rad		0~3,000 N/m, 0~300 Nm/rad	
Operating temperature	0~50°C		0~50°C	
Humidity	90% RH (non-condensing)		90% RH (non-condensing)	
Motion				
Repeatability	±0.03 mm		±0.03 mm	
Motion joint	Working range	Maximum speed	Working range	Maximum speed
Axis 1	±180°	180°/s	±180°	120°/s
Axis 2	±180°	180°/s	±180°	120°/s
Axis 3	±285°	234°/s	±285°	180°/s
Axis 4	±180°	240°/s	±180°	234°/s
Axis 5	±180°	240°/s	±180°	240°/s
Axis 6	±360°	300°/s	±360°	240°/s
Axis 7	——		——	
Maximum speed at tool end	≤ 4 m/s		≤ 3.5 m/s	
Features				
IP rating	IP67		IP67	
ISO cleanroom class	5		5	
Noise	≤ 70 dB(A)		≤ 70 dB(A)	
Robot installation	At any angle		At any angle	
Common I/O ports	Digital input	4	Digital input	4
	Digital output	4	Digital output	4
Safety I/O ports	External emergency stop	2	External emergency stop	2
	External safety gate	2	External safety gate	2
Tool connector type	M8		M8	
Tool I/O power supply	24 V/1 A		24 V/1 A	



Control System

Controller	Built-in controller
Operator interface	Notebook/PAD/xPad/Interactive Panel
Safety protection device	Handheld enable 1/handheld emergency stop 1
Base interface	Ethernet 2/EtherCAT 1/RS485/DIO
Wrist interface	EtherCAT 1/power 24V/RS485/DIO
Direct teaching control	Drag mode: Cartesian space/joint space; teaching mode: point position/continuous trajectory
Highly dynamic force control	Impedance control of Cartesian/joint space; motion planning for force control search
Communication protocols	TCP/IP 100Mbit, Modbus TCP, Profinet, Ethernet IP
External control interface	Highly dynamic external control; low-level force/position control; robot model library and API

xPad2

Dimensions	290 mm×190 mm×13 mm
Weight	800 g
Connection	Wired
Display	10.1-in LCD with a resolution of 1920×1080
IP rating	IP54

xPad2

ER Series
Specifications

	ER3		ER7		ER3 Pro		ER7 Pro	
Specifications								
Payload	3 kg		7 kg		3 kg		7 kg	
Reach	760 mm		850 mm		760 mm		850 mm	
Weight	19 kg		27 kg		20 kg		29 kg	
Degrees of freedom	6 revolute joints		6 revolute joints		7 revolute joints		7 revolute joints	
Rated life	≥ 35,000 h		≥ 35,000 h		≥ 35,000 h		≥ 35,000 h	
Power supply	DC 48V		DC 48V		DC 48V		DC 48V	
Programming	Direct teaching control and graphical interface		Direct teaching control and graphical interface		Direct teaching control and graphical interface		Direct teaching control and graphical interface	
Performance								
Power consumption	Average	Peak	Average	Peak	Average	Peak	Average	Peak
	200 w	400 w	500 w	900 w	300 w	500 w	600 w	1,000 w
Safety	≥ 20 adjustable safety features		≥ 20 adjustable safety features		≥ 20 adjustable safety features		≥ 20 adjustable safety features	
Certification	Compliant with EN ISO 13849-1, Cat.3, PL d and EU CE marking requirements		Compliant with EN ISO 13849-1, Cat.3, PL d and EU CE marking requirements		Compliant with EN ISO 13849-1, Cat.3, PL d and EU CE marking requirements		Compliant with EN ISO 13849-1, Cat.3, PL d and EU CE marking requirements	
Force sensing (tool flange)	Force, x-y-z	Torque, x-y-z	Force, x-y-z	Torque, x-y-z	Force, x-y-z	Torque, x-y-z	Force, x-y-z	Torque, x-y-z
Force measurement resolution	0.1 N	0.02 Nm	0.1 N	0.02 Nm	0.1 N	0.02 Nm	0.1 N	0.02 Nm
Relative accuracy of force control	0.5 N	0.1 Nm	0.5 N	0.1 Nm	0.5 N	0.1 Nm	0.5 N	0.1 Nm
Adjustable range of Cartesian stiffness	0~3,000 N/m, 0~300 Nm/rad		0~3,000 N/m, 0~300 Nm/rad		0~3,000 N/m, 0~300 Nm/rad		0~3,000 N/m, 0~300 Nm/rad	
Operating temperature	0~40°C		0~40°C		0~40°C		0~40°C	
Humidity	20%~80% RH (non-condensing)		20%~80% RH (non-condensing)		20%~80% RH (non-condensing)		20%~80% RH (non-condensing)	
Motion								
Repeatability	±0.03 mm		±0.03 mm		±0.03 mm		±0.03 mm	
Motion joint	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed
Axis 1	±170°	180°/s	±170°	110°/s	±170°	180°/s	±170°	110°/s
Axis 2	±120°	180°/s	±120°	110°/s	±120°	180°/s	±120°	110°/s
Axis 3	±120°	180°/s	±120°	180°/s	±170°	180°/s	±170°	180°/s
Axis 4	±170°	180°/s	±170°	180°/s	±120°	180°/s	±120°	180°/s
Axis 5	±120°	180°/s	±120°	180°/s	±170°	180°/s	±170°	180°/s
Axis 6	±360°	180°/s	±360°	180°/s	±120°	180°/s	±120°	180°/s
Axis 7	——		——		±360°	180°/s	±360°	180°/s
Maximum speed at tool end	≤ 3 m/s		≤ 2.5 m/s		≤ 3 m/s		≤ 2.5 m/s	
Features								
IP rating	IP54		IP54		IP54		IP54	
ISO cleanroom class	5		6		5		6	
Noise	≤ 70 dB(A)		≤ 70 dB(A)		≤ 70 dB(A)		≤ 70 dB(A)	
Robot installation	At any angle		At any angle		At any angle		At any angle	
Common I/O ports	Digital input	4	Digital input	4	Digital input	4	Digital input	4
	Digital output	4	Digital output	4	Digital output	4	Digital output	4
Safety I/O ports	External emergency stop	2	External emergency stop	2	External emergency stop	2	External emergency stop	2
	External safety gate	2	External safety gate	2	External safety gate	2	External safety gate	2
Tool connector type	M8		M8		M8		M8	
Tool I/O power supply	24 V/1 A		24 V/1 A		24 V/1 A		24 V/1 A	

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Communication protocols	TCP/IP 100Mbit, Modbus TCP, Profinet, Ethernet IP
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ER3 ER7 ER3 Pro ER7 Pro