

Applications

All the tools you need at one place to automate more





For sales and engineering support, contact MSI TEC: Ph: 866-397-7388 Email: info@msitec.com. Learn more at msitec.com.





Collaborative applications are the future of automation, enabling rapid deployment, easy changeovers, and safe operation alongside human workers. Manufacturers gain true value from innovative collaborative applications that are enabled by a full range of Plug & Produce grippers, sensors, vision, and the software that drives them.

We offer the industry's broadest range of end-of-arm tooling and software solutions for collaborative applications, using a unified mechanical interface that helps manufacturers automate quickly and efficiently. Our innovative, manufacturer-focused approach saves you time and money so you can get on with the business of production.

We are excited to show you what you can accomplish with flexible, cost-effective collaborative applications.

Enrico Krog Iversen, CEO OnRobot





Any robot you choose. One **OnRobot** system.

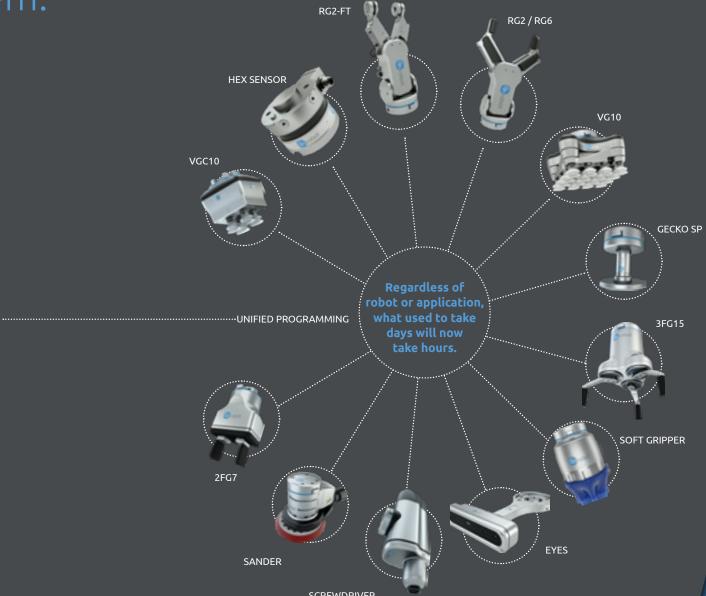
Save integration time and simplify deployment with our complete solution.

QUICK CHANGER

Fits all robots

DUAL QUICK CHANGER





ANY APPLICATION

– What do you want to automate?

Now you can automate processes that were previously too complicated





Material Ha



Material Remov

Machine Tendi



alitv

*If your robot arm is not represented above, contact your local partner for information on compatibility on other robot brands.



RG2/RG6

Plug & Produce grippers for multiple purposes

RG2 TECHNICAL SPECIFICATIONS

General Properties	Minimum	Maximum	Unit
Payload Force Fit	- -	2 4.4	[kg] [lb]
Total stroke (adjustable)	0	110 4.33	[mm] [inch]
Gripping force (adjustable)	3	40	[N]
Gripping speed	38	127	[mm/s]
Gripping time	0.06	0.21	[s]
IP Classification	IP54		

RG6 TECHNICAL SPECIFICATIONS

General Properties	Minimum	Maximum	Unit
Payload Force Fit	- -	6 13,2	[kg] [lb]
Total stroke (adjustable)	0 -	160 6.3	[mm] [inch]
Gripping force (adjustable)	25	120	[N]
Gripping speed	51	160	[mm/s]
Gripping time	0.05	0.15	S
IP Classification	54		

POWER UP PRODUCTION

- Flexible grippers can be used for a **wide** range of part sizes and shapes.
- Plug & Produce design **reduces deployment** time from a day to an hour.
- Easy deployment with out-of-the box grippers reduces programming time by 70%

Applications:























2FG7

Parallel gripper for tight spaces and demanding payloads

TECHNICAL SPECIFICATIONS

General Properties		Minimum	Typical	Maximum	Unit	
Payload Force Fit		-	-	7 [15.5]	kg [lb]	
Payload	Form Fit		-	-	11 [24.3]	kg [lb]
Total st	гoke		-	38	-	mm
	External	Fingers inwards	1 [0.039]	-	39 [1.53]	mm [inch]
Grip Width	Externat	Fingers outwards	35 [1.37]	-	73 [2.87]	mm [inch]
range	Internal	Fingers inwards	11 [0.43]	-	49 [1.92]	mm [inch]
	mternat	Fingers outwards	45 [1.77]	-	83 [3.26]	mm [inch]
Grippin	Gripping force		20	-	140	N
Grippin	g speed		16	-	450	mm/s
Grippin	g repeatabi	repeatability -		+/-0.1 [+/-0.004]	-	mm [inch]
Hold wo	orkpiece if p	oower loss?		Υє	es	
IP Class	ification		IP67			
Dimens	ions [L, W, I	D]				mm [inch]
Weight				1.14 [2.4]		kg [lb]

POWER UP PRODUCTION

- Complete, easy-to-program, collaborative parallel gripper gets to work fast in a wide range of applications
- Strong parallel gripper is easy to deploy in tight
- and handles even demanding payload requirements
- Get fast ROI with a single flexible, intelligent, and precise gripper that can be easily customized and adapted for many different tasks
- Ready for use almost anywhere, with IP67 rating for harsh environments and ISO Class 5 certification for cleanroom use

Applications:



Material Handling







2FG7

Can be used with products of various sizes and materials, including:





Metal













3FG15 Flexible, large-stroke 3-finger gripper

TECHNICAL SPECIFICATIONS

General Properties		Minimum	Typical	Maximum	Unit
Payload Force Fit		-	-	10 / 22	[kg] / [lb]
Payload Fo	rm Fit	-	-	15 / 33	[kg] / [lb]
Grip Diameter*	External	4 / 0.16	-	152 / 5.98	[mm] / [inch]
Grip Diameter.	Internal	35 / 1.38	-	181 / 7.12	[mm] / [inch]
Finger position	resolution	-	0.1 / 0.004	-	[mm] / [inch]
Repetition accuracy		-	0.1 / 0.004	0.2 / 0.007	[mm] / [inch]
Gripping force		10	-	240	[N]
Gripping force (adjustable)		3	-	100	[%]
Gripping speed (diameter change)		-	-	125	[mm/s]
Gripping time (including brake activation)		-	500	-	[ms]
Hold work if power l					
IP Classific	ation	IP67			
Dimensions [L, W, Ø]	[mm] / [ind			[mm] / [inch]
Weigh	t		1.15 / 2.5		[kg] / [lb]

POWER UP PRODUCTION

- Flexible production large-stroke **optimizes** CNC lathe-tending for multiple part sizes with a single 3-finger gripper
- Accurate centric positioning drives **higher** quality, consistency, and output with minimal programming
- Strong, stable grip and 3 contact points makes gripper **fast and easy to redeploy** for multiple processes
- Accomplish more with customizable fingertips to flexibly grip a wide range of part sizes and shapes

Applications:















Cardboard

3FG15

Can be used with products of various sizes and materials, including:





MG10

Electric Magnetic Gripper reliably handles range of parts

TECHNICAL SPECIFICATIONS

General Properties	Minimum	Typical	Maximum	Unit
Dayload	0.001	-	10	[kg]
Payload	0.002	-	22.046	[lb]
Workpiece size required for full force	Ø 65.4	-	-	[mm]
workpiece size required for fall force	Ø 2.574	-	-	[inch]
Magnetism resolution	-	100	-	[steps]
Gripping time (including brake activation)	-	300	-	[ms]
Hold workpiece if power is lost?	Yes			
Storage temperature	0	-	55	[°C]
Storage temperature	32	-	131	[°F]
Motor	Inl	tegrated, e	electric BLDC	
IP Classification		IP	67	
Dimensions [G 1]	71 x 80.2			[mm]
Dimensions [Ø, L]		[inch]		
Waight		0.8		[kg]
Weight		1.763		[lb]

POWER UP PRODUCTION

- Electric magnetic gripper offers fast out-of-the-box deployment without the complexity and costs of external air supply
- Built-in intelligence with easily adjustable force and part detection ensures reliable handling of a wide range of part sizes and weights
- Fast, compact and customizable gripper to fit all your application needs
- Ensure safe and reliable operation by maintaining grip even after power loss or emergency stop

Applications:









MG10

Can be used with products of various sizes and material, including:







Soft Gripper

Explore new automation possibilities with certified food-grade soft gripper

TECHNICAL SPECIFICATIONS

General Properties	Minimum	Typical	Maximum	Unit	
Material	1	Two-component silicone rubber			
Food approval	FDA 2	1 CFR 177.260	00 & EC/EU - 1	935/2004	
Operation cycles		2.000.000		[cycles]	
Operation temperature	-20 / -4		80 / 176	[C] / [F]	
SG-tool attachment mechanism		Quick-lock	and Smart-loc	:k	
Weight Base Part		0.77 /1.69		[kg] / [lb]	
SG-a-H / SG-a-S					
Max payload	-	-	2.2 / 1.5 4.85 / 3.3	[kg] [lb]	
Work range, Grip dimensions (A)	11 / 0.43	-	75 / 2.95	[mm] / [inch]	
Work range, Grip depth (B)	-	38 / 1.496	-	[mm] / [inch]	
Soft part (SG-a-S) (C)	-	16 / 0.63	-	[mm] / [inch]	
Dimensions (HxØmax)	-	76x112 / 3 x 4	.4	[mm] / [inch]	
Weight (smart lock included)		0.168 / 0.37		[kg] / [lb]	
SG-b-H					
Max payload	-	-	1.1 / 2.42	[kg] / [lb]	
Work range, Grip dimensions (A)	24 / 0.94	-	118 / 4.65	[mm] / [inch]	
Work range, Grip depth (B)	-	40 / 1.57	-	[mm] / [inch]	
Dimensions (HxØmax)	77:	x109 / 3.03 x	4.29	[mm] / [inch]	
Weight (smart lock included)		0.172 / 0.379)	[kg] / [lb]	

POWER UP PRODUCTION

- Explore new possibilities for food and beverage automation with certified food-grade soft gripper
- Easily handle a wide array of irregular shapes and delicate objects with flexible silicon-molded gripper
- Safely handle fragile and delicate objects for higher production quality and reduced waste
- No external air supply means no dust, no noise, no complexity, and no additional costs

Applications:



Soft Gripper



Can be used with products of various sizes and materials, including:



Organic material











Glass





OnRobot Eyes

Adding vision to robotic applications has never been easier

TECHNICAL SPECIFICATIONS

Camera Characteristics				
Interface	USB-C 3.x			
Output Resolution	1280 x 1080			
Working distance	400-1000 mm			
Operating Temperature	0 − 35 °C			
IP rating	IP 54			
Eyes Features				
Type of vision system	vision system 2.5 D			
Minimum part size	10x10 mm or 15 mm diameter			
Applications Supported	Detection, Sorting			
Mounting options supported	Robot and External			
	12 configurations (4 x 3)			
Reconfigurability when Robot mounted	Around robot's flange	Tilt orientations		
	0 - 90 - 180 - 270 (degrees)	0 - 45 - 90 (degrees)		
Detection processing time	Typ: 0.5 s			
Detection Repeatability	< 2 mm			
Detection Accuracy	External Mount	Robot Mount		
	Typ: 2 mm	Typ: 2 mm		
Application and set-up recommenda	tions			
Light conditions	No drastic, instant change			
Reflections and focused light spots	Keep minimal			
Characteristics of objects	Different from background			
Camera with respect to workspace	Looking straight to it			

POWER UP PRODUCTION

- Quickly and easily add vision to robotic applications with one-picture calibration, fast programming and seamless gripper integration
- Affordable, efficient 2.5D vision offers depth perception for varying heights or stacked objects
- Flexible, adaptable vision system with on-robot or external mounting is ideal
- almost any collaborative application
- Easily sort, pick and place unstructured applications with high reliability using any robot arm

Applications:























Can be used with products of various

Eyes





OnRobot









OnRobot Screwdriver Smart screwdriving solution for multiple processes

TECHNICAL SPECIFICATIONS

General Properties		Minimum	Typical	Maximum	Unit
S	crew size range	M1.6	-	M6	
	Torque range	0.15 / 0.11	-	5 / 3.68	[Nm] / [lbft]
Torque	If torque < 2Nm/1.47lbft	-	0.04 / 0.03	-	[Nm] / [lbft]
accuracy	If torque > 2Nm/1.47lbft	-	3	-	[%]
	Output speed	-	-	340	[RPM]
Screw le	Screw length within full safety		-	35 / 1.37	[mm] / [inch]
Shan	Shank stroke (screw axis)		-	55 / 2.16	[mm] / [inch]
Shank	Shank preload (adjustable)		10	25	[N]
Saf	fety feature force	35	40	45	[N]
	Motor (x2)	Integrated,	electric BLDC		
I	P Classification	IP54			
Dimensions		308x86x114 12.1x3.4x4.	-	[mm] [inch]	
Weight		2.5 / 5.51		[kg] / [lb]	
Scre	ew presenter sizes	M1.6; M2;	M2.5 ; M3 ; M4	; M5 ; M6	

POWER UP PRODUCTION

- Smart screwdriver easily automates multiple screwdriving processes with no downtime for manual changeovers
- Get the job done right—consistently and faster—with dynamic force control and intelligent error detection
- Expand your collaborative automation possibilities with built-in protective functions
- Get fast and easy deployment with automatic screw-feeding system and OnRobot's easy One System setup for any leading robot

Applications:



OnRobot Screwdriver





















OnRobot Sander

Complete surface finishing solution with fast and easy setup reduces complexity

TECHNICAL SPECIFICATIONS

General Properties		Minimum	Typical	Maximum	Unit
Pad diamete	er	-	127 [5]		
Pad height		9.5 [0.37] mm [inc			mm [inch]
Orbit size		-	-	5 [3/16]	mm [inch]
Rotation spe	eed	1,000	-	10,000	RPM
Ped type (31	M: 20353)		Clean San	ding Disc Pad	
Pad media t	уре		Но	okit™	
Pad weight		0.1 [0.22] kg [lb]			kg [lb]
Weight		1.2 [2.645] kg [lb]			kg [lb]
IP rating				P54	
Dimensions	(outer)	87 x 123 x 214 [3.42 x 4.84 x 8.42] mm [[inch]	
Operating (Conditions	Minimum	Typical	Maximum	Unit
Sanding pov	ver	-	150	-	W
	External voltage	-	30	-	V
Operation	External power	-	150	-	W
voltage	Tool connector voltage	-	24	-	V
	Tool connector power	-	2.4	-	W
Operation to	emperature	0 [32]	-	50 [122]	°C [°F]
Noise level a	at 10,000 RPM (3,000 RPM)	-	74 [44]	-	[dB]

POWER UP PRODUCTION

- Powerful and durable electric sander requires no compressed air, significantly reducing running and maintenance costs
- Cost-effective Grit Changer allows automatic switching between sanding grits without operator intervention for increased efficiency
- Flexible tool can be used on a wide range of part geometries and materials
- Sensing capabilities ensure precise adaptation to surface variations or part misalignment, improves product quality and consistency while reducing scrap
- Eliminates operator fatigue and hazards for easy compliance with local health and safety regulations

Applications:



Sanding, Polishing, Buffing



OnRobot Sander

Can be used with products of various sizes and materials, including:

















SP1/SP3/SP5 Gecko Single Pad Gripper

TECHNICAL SPECIFICATIONS

General Properties			Unit
	SP1	1/2.2	[kg] / [lb]
Maximum payload	SP3	3 / 6.6	[kg] / [lb]
	SP5	5 / 11	[kg] / [lb]
	Minimum	SP1: 2.8 SP3: 8.2 SP5: 11.6	[N]
Preload required	d Medium SP1: 8.2 SP3: 23.4 SP5: 33		[N]
	Maximum	SP1: 13.3 SP3: 38.6 SP5: 54.4	[N]
Detachment time		100-1000 (dependent on robot speed)	[msec]
Holds workpie power los		Yes. How long? Potentially days if well centered and undisturbed	
IP Classification		IP42	
Dimensions (Dimensions (HxW) 69 x 71 / 2.7		[mm] / [inch]
	SP1	0.267 / 0.587	[kg] / [lb]
Weight	SP3	0.297 / 0.653	[kg] / [lb]
	SP5	0.318 / 0.7	[kg] / [lb]

Pads general properties		Unit	
Material	Proprietary silicone blend		
Wear properties	Depends on surface roughness		
Change-out interval	~200.000	[cycles]	
Cleaning systems	1) OnRobot cleaning station 2) Silicone roller 3) Isopropyl Alcohol and lint-free cloth		
Cleaning interval	variable		
Recovery	100%		

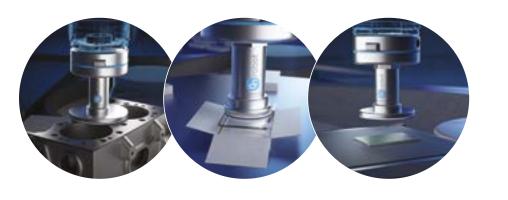
POWER UP PRODUCTION

- Compact, lightweight Gecko Single Pad Gripper requires no cables, electricity, air, or programming for cost-effective, plug-and-play performance
- Innovative adhesive gripper for flat, smooth, or perforated objects **automates** tasks that were previously not possible
- No-mark gripping even for shiny surfaces means no cleaning step is required, **saving** time and improving productivity
- No requirement for external air supply reduces noise and dust, lowers maintenance costs, and speeds deployment

Applications:



Gecko Single Pad Gripper





Can be used with products of various sizes and materials, including:



Plastic









Packaging



Pick & Collaborate helping hand with a sense of touch

The world's first gripper that can detect objects using built-in force/torque and proximity sensors.

RG2-FT TECHNICAL SPECIFICATIONS

General Properties	Minimum	Maximum	Unit
Payload Force Fit	-	2 4.4	[kg] [lb]
Total stroke (adjustable)	0 0	100 3.93	[mm] [inch]
IP Classification	IP54		

Force Sensor Properties	Fxy	Fz	Тху	Tz	Units
Nominal capacity (N.C.)	20	40	0.7	0.5	[N] [Nm]
Noise free resolu- tion	0.1	0.4	0.008	0.005	[N] [Nm]

POWER UP PRODUCTION

- Accurate sensing improves production quality by reducing defect rate as much as 60% in delicate Pick & Place processes.
- Easy-to-program sensing allows robot to act like an operator's third arm, with human-like part hand-offs.
- Ability to automate insertion tasks **that** weren't previously possible can reduce operation costs by 40%.

Applications:



























RG2-FT







VGP20

Industry's most powerful electric vacuum gripper

TECHNICAL SPECIFICATIONS

General Properties	Minimum	Typical	Maximum	Unit	
	5%	-	60%	[Vacuum]	
Vacuum	-0.05	-	-0.607	[Bar]	
	1.5	-	17.95	[inHg]	
Air flow in total	0	-	48	[L/min]	
Air flow on each channel	0	-	12	[L/min]	
Daylord (with default attack marks)	-	10 ⁽¹⁾	20 ⁽²⁾	[kg]	
Payload (with default attachments)	-	22.04	44.09	[lb]	
Vacuum cups	1	16	16	[pcs.]	
Gripping time (measured with vacuum target 40%)	-	0.25 ⁽³⁾	-	[s]	
Releasing time	-	0.4 ⁽³⁾	-	[s]	
Noise level ⁽⁴⁾	- 67 71 [[dB(A)]		
Vacuum pump	Integrated, electric BLDC				
Dust filters	Integrated 50µm, field replaceable				
IP Classification	IP54				
Dimensions	2	[mm]			
Dimensions	10.	[inch]			
Weight		[kg]			
Weight		[lb]			

POWER UP PRODUCTION

- Industry's most powerful electric vacuum gripper saves up to 90% over pneumatic grippers
- Ideal for palletizing cardboard boxes and other irregular shapes and porous surfaces
- Highly versatile gripper with unlimited customization fits any application
- Built-in intelligence and multichannel functionality ensure failsafe, flexible operation
- Complete out-of-the-box vacuum gripper offers fast, easy deployment with any leading robot

Applications:









Cardboard







Glossy packaging







Grab & Go - flexible, adjustable electrical vacuum gripper

VG10 TECHNICAL SPECIFICATIONS

General Properties	Minimum	Maximum		Unit
Vacuum	5 % -0.05 1.5	80 % -0.810 24		[Vacuum] [Bar] [inHg]
Air flow	0	12		[Nl/min]
Payload	0	15 33		[kg] [lb]
Recommended workpiece size	10x10 0.5x0.5	500x500 20x20		[mm] [inch]
Vacuum cups	1	16		[pcs.]
Gripping time	-	0.35	-	[s]
Releasing time	-	0.20	-	[s]
Vacuum pump	Integrated, electric BLDC			
Arms	4, adjustable by hand, 2 vacuum channels			
IP Classification	IP54			
Dimensions (folded)	105 x 146 x 146 4.13 x 5.75 x 5.75		[mm] [inch]	
Dimensions (unfolded)	105 x 390 x 390 4.13 x 15.35 x 15.35		[mr	
Weight	1.62 3.57		[kg] [lb]	

POWER UP PRODUCTION

- Out-of-the-box deployment plug into the robot arm and configure the gripper to fit the product – provides fast productivity and
- No external air supply required **reduces** maintenance costs and speeds deployment.
- Dual gripping functionality **enables shorter** cycle time.

Applications:





Can be used with products of various















VGC10

Compact vacuum gripper for all your needs

VGC10 TECHNICAL SPECIFICATIONS

General Properties	Minimum	Typical	Maximum	Unit	
Vacuum	5 % -0.05 1.5	- - -	80 % -0.810 24	[Vacuum] [Bar] [inHg]	
Air flow	0		12	[Nl/min]	
Payload	0	-	15 33	[kg] [lb]	
Recommended workpiece size	Unlimited, depends on custom arms				
Vacuum cups	1	-	7	[pcs.]	
Gripping time	-	0.35	-	[s]	
Releasing time	-	0.20	-	[s]	
Vacuum pump	Integrated, electric BLDC				
Arms	Replaceable, customizable				
Dust filters	Integrated 50µm, field replaceable				
IP Classification	IP54				
Dimensions (folded)	101 x 100 x 100 3.97 x 3.94 x 3.94			[mm] [inch]	
Weight	0.814 1.79			[kg] [lb]	

POWER UP PRODUCTION

- Flexible electric vacuum gripper with unlimited customization fits all your application needs
- Small, lightweight gripper is perfect for tight spaces but with plenty of power for objects up to 15kg
- No external air supply needed for reduced maintenance costs and faster deployment

Applications:









VGC10

Can be used with products of various

















Touch & Go – automation made simple with a sense of touch

HEX-E QC TECHNICAL SPECIFICATIONS

General Properties	6-Axis Force/Torque Sensor		Unit		
	Fxy	Fz	Txy	Tz	
Nominal Capacity (N.C)	200	200	10	5.5	[N] [Nm]
Single axis deformation at N.C (typical)	± 1.7 ± 0.067	± 0.3 ± 0.011	± 2.5 ± 2.5	± 5 ± 5	[mm] [°] [inch] [°]
Resolution (Noise-free)	0.2	0.8	0.01	0.002	[N] [Nm]
IP Classification	67				
Dimensions	50 x 71 x 93 1.97 x 2.79 x 3.66			[mm] [inch]	

HEX-H QC TECHNICAL SPECIFICATIONS

General Properties	6-Axis Force/Torque Sensor		Unit		
	Fxy	Fz	Txy	Tz	
Nominal Capacity (N.C)	200	200	20	13	[N] [Nm]
Single axis deformation at N.C (typical)	± 0.6 ± 0.023	± 0.25 ± 0.009	± 2 ± 2	± 3.5 ± 3.5	[mm] [°] [inch] [°]
Resolution (Noise-free)	0.5	1	0.036	0.008	[N] [Nm]
IP Classification	67				
Dimensions	50 x 71 x 93 1.97 x 2.79 x 3.66				[mm] [inch]

POWER UP PRODUCTION

- Flexible sensor extends automation **possibilities** to processes that weren't previously possible.
- Out-of-the-box integration **reduces deployment** time for precise insertion tasks from months to days.
- High-accuracy sensor technology provides 95% better quality in insertion and assembly tasks.
- Sensor-based applications speed cycle time by up to 60% to produce more with the same number of employees.
- Easy programming gets even **complex polishing** tasks up and running in less than a day.

Applications:



Material Removal



Material Handling





















Quick Changer & Dual Quick Changer Bracket

With the Dual Quick Changer, you can now use two tools in one cycle, achieving higher utilization of your robots.



Quickly switch between tools to meet changing production needs.

One Stop Shop for Collaborative Applications

All the tools you need at one place to automate more





Contact MSI TEC for OnRobot Sales and Engineering Support

MSI TEC offers a full line of robotics, automation, and industrial IoT and Networking Services.

Contact Us:

866-397-7388 or email info@msitec.com.

Visit msitec.com.