

Manual, Enhanced, and Communications Models

The EXCEL XR™ metering pump is a mechanically actuated diaphragm pump driven by advanced variable speed technology to provide the most accurate and reliable performance in the industry. This proven technology is easy to maintain and will provide years of maximum up-time service. Available in three control configurations, Manual, Enhanced, and Communications Models, the EXCEL XR pump fits seamlessly into the process control requirements of every application. The Manual model includes the ideal level of standard features, the Enhanced model provides a full range of capabilities, and the Communications model offers Profibus DP or Modbus RTU communication protocols for 2-way communication. All models come standard with a four-color backlit display, multilanguage options and remote operation options, all in a design platform that can adapt as technology evolves. The EXCEL XR metering pump provides everything you need for complete control of your process.



Applications

Whatever your application, the EXCEL XR metering pump can provide the performance you need. Designed for the specific requirements of municipal and industrial water and waste treatment, the EXCEL XR pump is suitable for a wide range of applications.

- Water treatment
- Waste water treatment
- General industry
- Agricultural
- Chemical
- Oil & gas
- Power generation
- Pulp & paper
- Textiles
- Other (contact your local authorized representative)



Certified to
NSF/ANSI 61 & 372

Performance Specifications

Turndown Ratio:	Up to 1000:1
Steady State Accuracy:	+/- 1.0%
Repetitive Accuracy:	+/- 3.0%
Linearity:	+/- 3.0%
Duty Rating:	Continuous

Features and Benefits

- Advanced easy-to-use operation interface with backlit color display and enhanced settings enable maximum application customization.
- Remote connectivity enables control and feedback in real time.
- Universal power supply providing maximum flexibility to power your pump: 100-240V, 50/60 Hz
- Multi-language navigation (English, French, Spanish, Portuguese and Chinese) for convenient operation anywhere in the field.
- Innovative drive system creates superior +/- 1% steady state accuracy over 1000:1 turndown ratio for greater flexibility of handling difficult chemicals.
- Optional liquid-end materials to maximize the life of the pump in challenging environments: polypropylene, PVDF, and 316L Stainless Steel.
- Mechanically actuated diaphragms for easy maintenance with years of field experience.
- Rugged construction with NEMA 4X/IP 65 housing and protective cover for the harshest environments.



an Accudyne Industries brand

Output Code 2 -
5.6 GPH (21.2 l/h) 175 psi (12.0 bar) Note: High viscosity option and PE tube limited to 150 psi (10.3 bar)

XRD EXCEL Series Frame D																
Control and Output Code																
	12	Manual Control														
	92	Enhanced Control														
	P2	Communications Control w/ Profibus DP														
	M2	Communications Control w/ Modbus RTU														
	Voltage Code															
	1	110 - 120 VAC 1 Phase US Plug														
	2	220 - 240 VAC 1 Phase US Plug														
	3	220 - 240 VAC 1 Phase DIN Plug														
	5	220 - 240 VAC 1 Phase UK Plug														
	6	220 - 240 VAC 1 Phase Australia / New Zealand Plug														
	7	220 - 240 VAC 1 Phase Swiss Plug														
	8	110 - 120 VAC 1 Phase No Plug														
			Liquid End Codes	Type	Head	Check Valve Body	Diaphragm	Diaph. O-Ring	Seat	Balls	O-Ring	Fittings	Connection	Tube Kit (see table)	Max Turndown Ratio	RPM Kit Number
			A44ACA7T1	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	Ceramic	TFE/P	PVDF	Tube Imperial	1	1000:1	RPM54771
			A44ACA7PN	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	Ceramic	TFE/P	PVDF	1/2" NPT/BSP	-	1000:1	RPM54771
			A44A1A7T1	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	316L	TFE/P	PVDF	Tube Imperial	1	1000:1	RPM54778
			A44A1A7PN	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	316L	TFE/P	PVDF	1/2" NPT/BSP	-	1000:1	RPM54778
			A44ACA7M2	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	Ceramic	TFE/P	PVDF	Tube Metric	2	1000:1	RPM54771
			A44A1A7M2	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	316L	TFE/P	PVDF	Tube Metric	2	1000:1	RPM54778
			A44ACA2FN	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	Ceramic	TFE/P	PVDF/PVC	DN15 Female	-	1000:1	RPM54772
			A44A1A2FN	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	316L	TFE/P	PVDF/PVC	DN15 Female	-	1000:1	RPM54779
			A74TCA7T1	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF	Tube Imperial	1	200:1	RPM54773
			A74TCA7PN	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF	1/2" NPT/BSP	-	200:1	RPM54773
			A74TCA7M2	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF	Tube Metric	2	200:1	RPM54773
		A74TCA2FN	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF/PVC	DN15 Female	-	200:1	RPM54774	
		A74TCA7DN	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF	DN15 Male	-	200:1	RPM54774	
		A1411V1PN	Std	316L	316L	PTFE/316L	FKM	316L	316L	FKM	316L	NPT	-	1000:1	RPM54775	
		S1414V1PN	Slurry	316L	316L	PTFE/316L	FKM	316L	440C	FKM	316L	NPT	-	1000:1	RPM54776	
		V44T1N4T3	Hi Vis	PP	PP	PTFE/PVDF	FKM	PTFE	316L	-	PP	Tube Imperial	3	1000:1	RPM54777	
XRD	92	1	A44ACA7T1		Complete Product Code											

Output Code 3 -
14.0 GPH (53.0 l/h) 75 psi (5.0 bar)

XRD EXCEL Series Frame D															
Control and Output Code															
13 93 P3 M3	Manual Control														
	Enhanced Control														
	Communications Control w/ Profibus DP														
	Communications Control w/ Modbus RTU														
	Note: Cordsets from the accessories table may be required for the customer to connect to desired input/output. Enhanced and Communications models are shipped with 4 pin cable for analog input signal.														
	Voltage Code														
	1	110 - 120 VAC 1 Phase US Plug													
	2	220 - 240 VAC 1 Phase US Plug													
	3	220 - 240 VAC 1 Phase DIN Plug													
	5	220 - 240 VAC 1 Phase UK Plug													
	6	220 - 240 VAC 1 Phase Australia / New Zealand Plug													
	7	220 - 240 VAC 1 Phase Swiss Plug													
	8	110 - 120 VAC 1 Phase No Plug													
		Liquid End Codes	Type	Head	Check Valve Body	Diaphragm	Diaph. O-Ring	Seat	Balls	O-Ring	Fittings	Connection	Tube Kit (see table)	Max Turndown Ratio	RPM Kit Number
		A44ACA7T1	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	Ceramic	TFE/P	PVDF	Tube Imperial	1	1000:1	RPM54771
		A44ACA7PN	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	Ceramic	TFE/P	PVDF	1/2" NPT/BSP	-	1000:1	RPM54771
		A44A1A7T1	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	316L	TFE/P	PVDF	Tube Imperial	1	1000:1	RPM54778
		A44A1A7PN	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	316L	TFE/P	PVDF	1/2" NPT/BSP	-	1000:1	RPM54778
		A44ACA7M2	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	Ceramic	TFE/P	PVDF	Tube Metric	2	1000:1	RPM54771
		A44A1A7M2	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	316L	TFE/P	PVDF	Tube Metric	2	1000:1	RPM54778
	A44ACA2FN	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	Ceramic	TFE/P	PVDF/PVC	DN15 Female	-	1000:1	RPM54772	
	A44A1A2FN	Std	PP	PVDF	PTFE/PVDF	FKM	TFE/P	316L	TFE/P	PVDF/PVC	DN15 Female	-	1000:1	RPM54779	
	A74TCA7T1	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF	Tube Imperial	1	200:1	RPM54773	
	A74TCA7PN	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF	1/2" NPT/BSP	-	200:1	RPM54773	
	A74TCA7M2	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF	Tube Metric	2	200:1	RPM54773	
	A74TCA2FN	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF/PVC	DN15 Female	-	200:1	RPM54774	
	A74TCA7DN	Std	PVDF	PVDF	PTFE/PVDF	FKM	PTFE	Ceramic	TFE/P	PVDF	DN15 Male	-	200:1	RPM54774	
	A1411V1PN	Std	316L	316L	PTFE/316L	FKM	316L	316L	FKM	316L	NPT	-	1000:1	RPM54775	
	S1414V1PN	Slurry	316L	316L	PTFE/316L	FKM	316L	440C	FKM	316L	NPT	-	1000:1	RPM54776	
	V44T1N4T3	Hi Vis	PP	PP	PTFE/PVDF	FKM	PTFE	316L	-	PP	Tube Imperial	3	1000:1	RPM54777	
XRD	93	1	A44ACA7T1		Complete Product Code										

EXCEL™ XR Series Code Selection Tables, cont.

Output Code 4 -

18.0 GPH (68.1 l/h) 50 psi (3.5 bar)

XRD EXCEL Series Frame D													
Control and Output Code													
14	Manual Control			Note: Cordsets from the accessories table may be required for the customer to connect to desired input/output. Enhanced and Communications models are shipped with 4 pin cable for analog input signal.									
94	Enhanced Control												
P4	Communications Control w/ Profibus DP												
M4	Communications Control w/ Modbus RTU												
Voltage Code													
1	110 - 120 VAC 1 Phase US Plug												
2	220 - 240 VAC 1 Phase US Plug												
3	220 - 240 VAC 1 Phase DIN Plug												
5	220 - 240 VAC 1 Phase UK Plug												
6	220 - 240 VAC 1 Phase Australia / New Zealand Plug												
7	220 - 240 VAC 1 Phase Swiss Plug												
8	110 - 120 VAC 1 Phase No Plug												
	Liquid End Codes	Type	Head	Check Valve Body	Diaphragm	Seat	Balls	O-Ring	Fittings	Connection	Tube Kit (see table)	Max Turndown Ratio	RPM Kit Number
	A46VCN4PN	Std	PP	PP	PTFE	FKM	Ceramic	-	PP	NPT	-	500:1	RPM54780
	A46VCN4TN	Std	PP	PP	PTFE	FKM	Ceramic	-	PP	Tube Imperial	-	500:1	RPM54780
	A46V1N4PN	Std	PP	PP	PTFE	FKM	316L	-	PP	NPT	-	500:1	RPM54784
	A46V1N4TN	Std	PP	PP	PTFE	FKM	316L	-	PP	Tube Imperial	-	500:1	RPM54784
	A46V1N2FN	Std	PP	PP	PTFE	FKM	316L	-	PP/PVC	DN15 Female	-	500:1	RPM54784
	A46VCN2FN	Std	PP	PP	PTFE	FKM	Ceramic	-	PP/PVC	DN15 Female	-	500:1	RPM54780
	A76VCN7PN	Std	PVDF	PVDF	PTFE	FKM	Ceramic	-	PVDF	NPT	-	500:1	RPM54780
	A76VCN7TN	Std	PVDF	PVDF	PTFE	FKM	Ceramic	-	PVDF	Tube Imperial	-	500:1	RPM54780
	A76VCN2FN	Std	PVDF	PVDF	PTFE	FKM	Ceramic	-	PVDF/PVC	DN15 Female	-	500:1	RPM54780
	A76VCN7FN	Std	PVDF	PVDF	PTFE	FKM	Ceramic	-	PVDF	DN15 Female	-	500:1	RPM54780
	A1611V1PN	Std	316L	316L	PTFE	316L	316L	FKM	316L	NPT	-	1000:1	RPM54781
	S1614V1PN	Slurry	316L	316L	PTFE	316L	440C	FKM	316L	NPT	-	1000:1	RPM54783
	V46T1N4P4	Hi Vis	PP	PP	PTFE	PTFE	316L	-	PP	NPT	4	1000:1	RPM54782
	V46T1N4T4	Hi Vis	PP	PP	PTFE	PTFE	316L	-	PP	Tube Imperial	4	1000:1	RPM54782
XRD	94	1	A46TCN4PN		Complete Product Code								

Tubing Kit # Description Table

Kit#	Contents	Kit#	Contents	Kit#	Contents	Kit#	Contents
1	1 Injection valve	2	1 Injection valve	3	1 Injection valve	4	2m Reinforced PVC hose 15x23mm (Suction)
	1 Foot valve		1 Foot valve		2m Reinforced PVC hose 15x23mm (Suction)		1 Suction hose fitting (1/2" FNPT X 15x23 hose) & 2 Hose clamps
	1 Weight (suction tubing)		1 Weight (suction tubing)		3m PE tube 1/2" (Discharge)		
	16' PE tube 3/8"		6m PE tube 8mm		1 Suction hose fitting (1/2" FNPT X 15x23 hose) & 2 Hose clamps		
	20' Reinforced PVC hose 1/4"x1/2"		6m Reinforced PVC hose 6x12mm				

Accessories

Input/Output Cordsets

Part No.	Description	Application Notes
48414	CORDSET, 5 PIN, 2 M / 6.6 FT	(J2) Digital output
49035	CORDSET, 6 PIN, 2 M / 6.6 FT	(J1 & J4) Digital input & Analog output
54711	CORDSET, 4 PIN, 2 M / 6.6 FT	(J3) Analog input
55199	CORDSET, 5 PIN, 2M / 6.6 FT	(c) Profibus/Modbus Communication

Extension Cable Assemblies - 5 Pin

Part No.	Description	Application Notes
50503-3	Extension Cable, 3 M / 9.8 FT	
50503-6	Extension Cable, 6 M / 19.7 FT	
50503-15	Extension Cable, 15 M / 49.2 FT	
50503-30	Extension Cable, 30 M / 98.4 FT	

Extension Cable Assemblies - 6 Pin

Part No.	Description	Application Notes
50684-3	Extension Cable, 3 M / 9.8 FT	
50684-6	Extension Cable, 6 M / 19.7 FT	
50684-15	Extension Cable, 15 M / 49.2 FT	
50684-30	Extension Cable, 30 M / 98.4 FT	

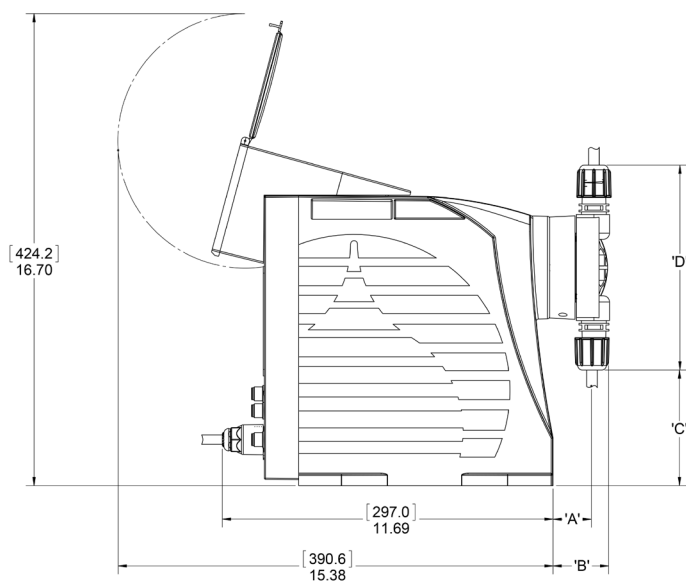
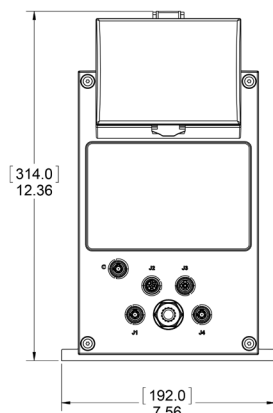
Electronic control by model

	Control Version		
	Manual model	Enhanced model	Communications model
User Interface			
Four Color Backlit graphical display	●	●	●
Flow rate or volume display (GPH, L/hr)	●	●	●
Capacity setting display	●	●	●
Start/Stop button	●	●	●
Mode/Select button	●	●	●
Full capacity (100%) button	●	●	●
Prime button	●	●	●
Active operation mode indication on display	●	●	●
Active alarm indication on display	●	●	●
Calibration status indication on display	●	●	●
Operation Modes			
Manual (Internal)	●	●	●
Analog [0/4-20 mA] (External)		●	●
Pulse [volume/pulse] (External)		●	●
Batch (External)		●	●
Cycle Timer (Internal)		●	●
Timed event (Internal)		●	●
Control Input			
Programmable digital contacts	1	4	4
Single level float switch	●	●	●
Dual low level float switch		●	●
Pulse control		●	●
Remote start/stop	●	●	●
Remote internal/external mode selection		●	●
Programmable analog inputs	0	2	2
Pacing		●	●
Tank level		●	●
Control Protocol			
Modbus RTU*			●
Profibus DP*			●

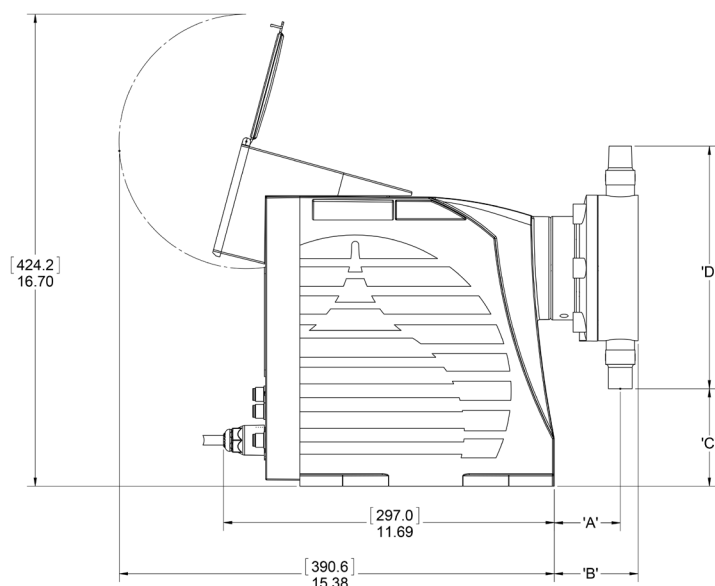
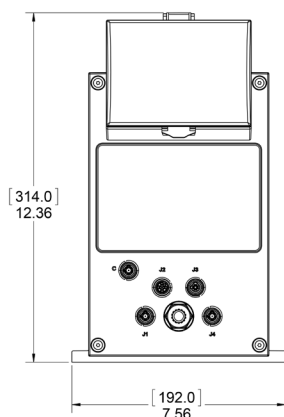
* Must order pump configured for your control protocol (See section table).

	Control Version		
	Manual model	Enhanced model	Communications model
Control Output			
Programmable digital contacts	0	2	2
Pump running		●	●
Pump standby/stopped [not pumping but ready]		●	●
Alarm status		●	●
User alarm status		●	●
Internal/External mode indication		●	●
Pump stopped		●	●
Stroke pulse		●	●
Timed event running		●	●
Programmable analog output	0	1	1
Flow rate [4-20 mA correlates to 0 - max capacity]		●	●
Mirror analog input 1		●	●
Power supply for remote device [24V] (eg. Flow sensor)	0	1	1
Operation functions			
Capacity control by motor speed variation	●	●	●
Variable stroke profile (variable discharge speed/constant suction speed)	●	●	●
Slow suction mode for viscous or degassing media	●	●	●
Calibration function (single point)	●	●	●
Prime feature (max capacity) button, timer	●	●	●
Totalizer (strokes, volume, hours motor operation, number of power cycles)	●	●	●
Keypad lock (software driven with password)	●	●	●
Clock feature (date and 12 hour time)	●	●	●
Diaphragm replacement mode (sets stroke to extended position)	●	●	●
Display firmware revision	●	●	●
Load factory defaults	●	●	●
Battery to maintain date and time settings when main power is removed	●	●	●
EEPROM nonvolatile memory (configurations saved/powers up in last used mode)	●	●	●
Internal/External input control mode configuration	●	●	●
Alarm output mask configuration (configure which events trigger alarm output relay)	●	●	●
Analog input response curve customization		●	●
Input pulse width setting		●	●
Start/Stop via remote signal	●	●	●
Pump switch off on tank empty	●	●	●
Modbus RTU / Profibus DP protocol			●

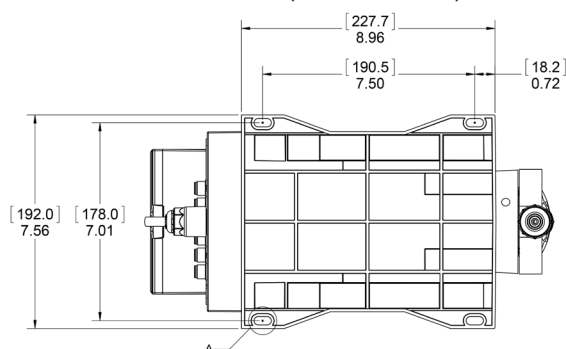
Drive Sizes: XRDx2x, XRDx3x



Drive Size: XRDx4x



Mounting Information (All drive sizes)



DRIVE	LIQUID END	A		B		C		D	
		INCH	[mm]	INCH	[mm]	INCH	[mm]	INCH	[mm]
XRDx2x XRDx3x	*TUBE CONNECTIONS: CODE A44, A74"	1.44	36.7	2.03	51.7	4.09	103.9	7.25	184.2
	*DN PIPE CONNECTIONS: CODE A44, A74"	1.44	36.7	2.00	50.7	2.45	62.2	10.54	267.7
	*STAINLESS HEAD AND SLURRY HEAD: CODE A14, S14"	1.38	35.0	2.01	51.0	3.70	94.0	8.03	204.0
	*HIGH VISCOSITY HEAD: CODE V44"	1.61	40.8	2.30	58.3	4.32	109.8	7.63	193.7
XRDx4x	*NPT CONNECTIONS: CODE A46, A76"	2.33	59.3	2.96	75.3	3.45	87.6	8.58	218.0
	*TUBE CONNECTIONS: CODE A46, A76"	2.33	59.3	2.96	75.3	2.82	71.6	9.84	250.0
	*DN PIPE CONNECTIONS: CODE A46, A76"	2.33	59.3	3.13	79.5	2.05	52.1	11.38	289.0
	*STAINLESS HEAD AND SLURRY HEAD: CODE A16, S16"	2.42	61.4	3.28	83.4	2.98	75.6	9.49	241.0
	*HIGH VISCOSITY HEAD (NPT DISCHARGE): CODE V46"	2.33	59.3	2.95	74.9	3.73	94.8	8.30	210.8
	*HIGH VISCOSITY HEAD (TUBE DISCHARGE): CODE V46"	2.33	59.3	2.95	74.9	3.73	94.8	8.93	226.8

We are a proud member of Accudyne Industries, a leading global provider of precision-engineered, process-critical and technologically advanced flow control systems and industrial compressors. Delivering consistently high levels of performance, we enable customers in the most important industries and harshest environments around the world to accomplish their missions.



Contact your local representative to find out more about EXCEL™ XR the intelligent pump that's making a name for itself.

www.lmipumps.com
www.excelxrpumps.com

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