

Merit LILIN Application Note

LILIN P5/Z5 Series Cameras on Control4

Document Number : A00310 Date : 2021/01/11 Dept: Technical Support, Taipei

Driver Identification

Model	Driver File Name	Composer search name	Version
P5	camera_ip_lilin_static_5series.c4z	LILIN Static IP Camera (5 Series)	136
Z5	camera_ip_lilin_ptz_5series.c4z	LILIN PTZ IP Camera (5 Series)	136

• LILIN P5 & Z5 Series cameras are not SDDP (Auto discoverable) on Control4.

To add a camera to the Control4 system first copy the 5 series drivers into your Control4 driver folder.

$\leftarrow \rightarrow \land \downarrow \square $	This PC > Documents > Control4 > Drivers			~	č
	Name	Date modified	Туре	Size	
Quick access	camera_ip_lilin_ptz.c4z	08/01/2021 09:59	C4Z File	67 KB	
Desktop 🤉	camera_ip_lilin_ptz_5series.c4z	08/01/2021 09:59	C4Z File	66 KB	
Downloads	camera_ip_lilin_static.c4z	08/01/2021 09:59	C4Z File	63 KB	
Documents	camera_ip_lilin_static_5series.c4z	08/01/2021 09:59	C4Z File	62 KB	
Pictures 🤉	chowmain_lilin_ipcamera.c4z	08/09/2020 05:30	C4Z File	54 KB	
Al Videos	Onkyo_receiver_TX-NR626.c4i	28/07/2020 16:56	C4I File	380 KB	
Drivers	cable_LILIN_DHD5216_IP.c4z	21/07/2020 06:25	C4Z File	88 KB	
LIUN Logo's	cable_LILIN_NVR3216_IP.c4z	21/07/2020 06:25	C4Z File	88 KB	
Designets	cable_LILIN_NVR3816_IP.c4z	21/07/2020 06:25	C4Z File	88 KB	
Projects	cable_LILIN_NVR5104E_IP.c4z	21/07/2020 06:25	C4Z File	88 KB	
CneDrive	able_LILIN_NVR5832_IP.c4z	21/07/2020 06:25	C4Z File	88 KB	
This DC	cable_Lilin_NVR_IP.c4i	04/06/2020 11:23	C4l File	86 KB	
mis PC	camera_ip_http_lilin_NVR_01.c4i	04/06/2020 11:22	C4I File	3 KB	
> 📑 3D Objects	soundmachine.c4z	04/06/2020 09:59	C4Z File	1,607 KB	
Deskton	E3 .	A 105 13933 83 50			



Run Composer and search for LILIN 5 Series. Select either PTZ (Z5) or Static (P5) and double click to add to project.

			—		
tems					
Locations	Discovered	My Drive	ers	Sear	ch
Lilin 5 Serie	s				
∠ Local ∠C	Inline Certified	Only		<u>Clear Sea</u>	arch
- All Categories					
Туре:					
All Types					
Manufacturer:					
All Manufacture	rs				
Control Method:	All Methods	 ✓ Sort: 	Relev	/ance	
Lilin Static	IP Camera (5	Series)			
Lilin	07/01/2021 19:3	36		Lo	cal
Lilin PTZ I	^o Camera (5 S	Series)			
Lilin	07/01/2021 19:3	35		Lo	cal
	-1				

Once added you can rename the device as required.





As the 5 series is not SDDP you need to enter the IP address of the camera. To do this, select the connections tab followed by Network – all IP connected devices (on your C4 project) will be shown.



Composer Pro 3.2.1 / OS Management 3.1.3	3 - Lilin Demo (Local)							
File Driver Go Tools Help								
Connections		IP Network Connect	tions					
Control/AV	Network	Identify Disconnect						Disconnect All IP
IP Network								View as: O
Zigbee Network		Device	Boom	Type	Address Turne	Address	IP Address	
Z-Wave Network		Navigator	Main Rack	of contr	ID	10.0.0.62	10 0 0 62	
		Ele HDMI Matrix	Main Rack	c4:contr	UUID	c4:control4_8x8	10.0.0.02	
		Receiver	Living Room	Onkvore	UUID	Onkvo:receiver:T	10.0.0.52	
		8-Channel Dimmer	Main Rack	c4:contr	UUID	c4:control4 light:	10.0.0.57	
		T3 7" In-Wall Touch	Display 1	c4:uidevi	UUID	c4uidevice_glas	10.0.0.49	
		Wyrestorm 6x6	Training Room Left	c4:lua_gen	IP	10.0.0.76	10.0.0.76	
		Training Room NVR	Training Room Left	LILIN DV	IP	10.0.0.240	10.0.0.240	
		T3 7" Tabletop Touc	Training Room Left	c4:uidevi	UUID	c4:uidevice_glas		
		T3 7" Tabletop Touc	Living Room	c4:uidevi	UUID	c4:uidevice_glas		
		Q LILIN Doorstation	Cameras	lilin:doors	IP	10.0.0.202	10.0.0.202	
		Office	Cameras	liin:came	IP	10.0.0.127	10.0.0.127	
		Decoder	Decoder	lilin:cable	IP	10.0.0.246	10.0.0.246	
		ULLIN NAV	Display 1	LILIN NAV	IP ID	10.0.0.26	10.0.0.26	
		VQ 360	Cameras	lilin:came	IP ID	10.0.0.141	10.0.0.141	
		T Series	Cameras	lin came	IP IP	10.0.0.149	10.0.0.143	
		LILIN PTZ Camera	Cameras	lin cane	IP	10.0.0.133	10.0.0.133	
		S Series	Cameras	liin came	IP	10.0.0.154	10.0.0.154	
		1 360 4K	Cameras	lilin:came	IP	10.0.0.212	10.0.0.212	
		A LILIN PTZ Demo Room	Cameras	lilin:came	IP	10.0.0.167	10.0.0.167	
		LILIN Facial Navigator	Main Rack	LILIN NAV	IP	10.0.0.28	10.0.0.28	
		IPS210 PTZ Training	Cameras	lilin:came	IP	10.0.0.190	10.0.0.190	
		GJD Light	Hidden Room	gjd:gjd_c	IP	10.0.0.199	10.0.0.199	
		LILIN Doorstation 2	Hidden Room	lilin:doors	IP	10.0.0.193	10.0.0.193	
		SG1122LPR	Cameras	lilin:came	IP	10.0.0.205	10.0.0.205	
		LILIN Training Room	Cameras	lilin:came	IP	10.0.0.194	10.0.0.194	
		Training Room PZD	Cameras	lilin:came	UUID	liin:camera:ptz_c		
		CLILIN LPR Training	Cameras	lilin:came	IP	10.0.0.191	10.0.0.191	
		Canpopy Zoom/Focus	Cameras	liin:came	IP ID	10.0.0.129	10.0.0.129	
		P 4K Carpark	Cameras	liin came	IP ID	10.0.0.112	10.0.0.112	
		2 Sories	Cameras	lin.cane	IP ID	10.0.0.203	10.0.0.203	
		PA LPR	Cameras	liin came	IP	10.0.0.211	10.0.0.211	
		LILIN NVR5832	Main Back	liin cable	UUID	liin cable nyr583	10.0.0.242	
		O LILIN DHD5216	Main Rack	lilin:cable	UUID	liin:cable:dhd521	10.0.0.244	
		LILIN_NVR3816	NVR	liin:cable	UUID	liin:cable:nvr381	10.0.0.247	
		LILIN_NVR5104E	Main Rack	lilin:cable	UUID	liin:cable:nvr51t4	10.0.0.240	
		3 EA-3	Living Room	c4:contr	UUID	c4:control4_ea3	10.0.0.51	
		ULIN Mini PTZ	Cameras	lilin:came	UUID	liin:camera:ptz_c	10.0.0.168	
		Stairs	Cameras	lilin:came	UUID	liin:camera:ptz_c	10.0.0.122	
		Ulin NVR (IP)	Main Rack	liin:cable	IP	10.0.0.243	10.0.0.243	
System Design		- ₩ 5 Series Alarm	Cameras	lilin:came	IP ID	10.0.0.157	10.0.0.157	
		 demo room o series test LILIN 5 Series 	CCTV	liin:came	IP	10.0.0.101	10.0.0.101	
▶ Media								
💭 Agents		1						
(/) Programming		-						
		-						

Double click on the camera and a new window will appear. Enter the camera IP address here and click close.



Return to system design. The IP address will now be complete in the camera properties. Enter port number (if camera is not using 80) Enter Username & Password and press set.

perties				
mera Properties Camera Tes	st			
Address				
Hostname / IP Address:	10.0.0.101			
HTTP Port	80		Set	
RTSP (H.264) Port	554		Set	
Snapshot Refresh Rate:	60	Sec.	Set	
Publicly Accessible:				
uthentication				
Required:	\checkmark			
Username:	admin		Set	
Password:	•••••	•	Set	
Туре:	Basic 🗸 🗸			
Aspect Ratio:	16x9	~		
Load Defaults			Help	

If using a Z5 (PTZ Driver) scroll to the bottom of the Advanced Properties and select AF Series (Auto Focus), and press set. This will enable you to zoom the camera in & out on the Control4 Panel.

Advanced Properties		
Properties Actions Docu	mentation Lua	
Camera Model		Z5R6422X3
Camera Series		5
Firmware		9.0.001.1599
Detections		motion alarm_in
HTTP POST port		54541
PTZ		IP Auto focus
H264 Stream		Select Stream Resolution
Pan Tilt Zoom Increment		7
Sync with C4 Time		No
Debug Level		2 - Warning v
Debug Mode		ON V
Zoom Type		Select
		Select PTZ Series Pro Series



By default, the driver connects to camera stream 1. To change this, click on Select Stream Resolution & choose from the drop-down menu.

Advanced Properties	
Properties Actions Documentation Lua	
Camera Model	Z5R6422X3
Camera Series	5
Firmware	9.0.001.1599
Detections	motion alarm_in
HTTP POST port	54541
PTZ	IP Auto focus
H264 Stream	Select Stream Resolution
Pan Tilt Zoom Increment	stream Vesolution stream 1
Sync with C4 Time	stream2 No V
Debug Level	2 - Warning v
Debug Mode	Off v
Zoom Type	Select v

Note: Please check that your C4 Panel can support your selected resolution.

How does the stream selection relate to your camera? LILIN 5 cameras can be set to stream three resolutions at one time. Enter the configuration menu of your camera and select Video.

System 🚺	Video Controls	Network	SmartEver
General	Setup > Video > General		
Quality Basic	Video Standard		
Quality Advance	Video otalidard	. @ 60HZ 0 50HZ	
Auto Focus			
Day Night Mode Switch	Encoder1		
Privacy Mask	Profile Name	H.264 🗸	
	Resolution	1920x1080 🗸	
	Output Frame Rate	30 🗸	
	GOP (Group of Pictures)	30 🗸	
	Stream Mode	CBR 🗸	
	Bit Rate	3 Mbps 🗸	
	RTSP URL	rtsp://10.0.0.101/stream0	
	Encoder2		
	Profile Name	H.264 🗸	
	Resolution	1280x720 🗸	
	Output Frame Rate	30 🗸	
	GOP (Group of Pictures)	30 🗸	
	Stream Mode	CBR 🗸	
	Bit Rate	1 Mbps 🗸	
	RTSP URL	rtsp://10.0.0.101/stream1	
	Encoder3		
	Profile Name	H.264 🗸	
	Resolution	720x480 🗸	
	Output Frame Rate	30 🗸	
	GOP (Group of Pictures)	30 🗸	
	Stream Mode	CBR 🗸	
	Bit Rate	1 Mbps 🗸	
	RTSP URI	rtsp://10.0.0.101/stream2	



In the above image Stream 0 is 1080P, Stream 1 is 720p & Stream 2 is 480P. As I have selected Stream 1 in Composers advance camera properties, my panels will display the 720p H.264 Stream.

There are several ways to check your connection/stream in composer.

In the properties window select camera test. Here you can test the snapshot (for thumbnail) & the H.264 stream you have selected.

Properties
Properties
Camera Properties Camera Test
Test
Get Snapshot URL X 640 x Y 480
http://10.0.0.101:80/snap Test
Get Mipeg URL X 320 x Y 240 Rate (fps) 5
lest
Get H.264 URL X 320 x Y 240 Rate (fps) 15
rtsp://10.0.0.101:554/stream1 Test
Status: Verfying URL URL verfied. Calculating framerate Framerate = 30/second Test passed.
v v

Alternatively, double click on the camera in the system Design section. A preview window will open.



Here you can view the snapshot or the live H.264 stream.



Once finished refresh Navigators in composer and your newly added 5 Series cameras will appear on C4 Panels under the Security Section



If it is a Z5 Series (auto Zoom/Focus) you can control the Zoom with the Controls at the bottom of Panel. The Preset 8 key is to Auto Focus.





The 5 Series cameras also have two alarms.

- Motion Detection
- Alarm input (DI)

Once the LILIN 5 Series camera has been added to your C4 Project it will automatically create 2 Smart Events (alarms) in the LILIN camera

- 01 For Motion
- 02 For Digital Input

Note: These alarms cannot be edited for sleep time or extra actions as when C4 director reboots, it resets these pre-programmed Smart Events back to these defaults – So if you wish to add other actions, add them as other Events from Event 3 onward.

The driver also creates the first 2 HTTP posts in the camera.

- 01 For Motion
- 02 For digital input

System	Video	Controls	Network	SmartEvent	Notification	Maintenanc
FTP Service	Setup > Notification	tion > HTTP PO	ST Service			
SMTP Service	Number	нттр	POST Server Name	нт	TP POST Server IP/DNS	Po
HTTP POST Service	1	C	ontrol4 motion		10.0.0.62	545
SD Card Service	2	Co	ntrol4 digital in		10.0.0.62	545
00 00.000000	3	ht	tpservername2		httpserver.com	8/
SD Card Backup File	4	ht	tpservername3		httpserver.com	8/
CAMPA Convice	5	httpservername4			httpserver.com	8/
SAMDA SEIVICE	6	httpservername5			httpserver.com	8/
	7	ht	pservername6		httpserver.com	8/
	8	ht	tpservername7		httpserver.com	8/
	9	ht	tpservername8		httpserver.com	81
	10	ht	tpservername9		httpserver.com	8(

Note: If you want to use other HTTP Posts do not use 1 & 2 as these will default back to these preprogrammed settings if C4 reboots.

If you want to use Motion Detection under Smart Event select Motion detection and click enable





For Digital Input choose Controls \rightarrow Digital IO and choose NO or NC for your State Input.

Digital IO	Setup > Ce	ontrols > Digital IO			
Global Counter Virtual Input	Digital I/O # Digital I/O #	1 State:Input NO)		
Metadata		ОК			

Now the camera has been set, you need to Bind the Alarms to Control4

To set control4 to respond to alarms, first install a generic Motion alarm in composer. Under Items Search for Motion.

tems			
Locations	Discovered	My Drivers	Search
motion			~
🗸 Local 🗸	Online 🗌 Certified	d Only	Clear Search
Category:			
All Categories	-		~
Туре:			
All Types			~
Manufacturer:			
All Manufactu	rers		~
Control Method	All Methods	V Sort: Rel	evance ~
Card Acces	ess Wireless M 02/10/2009 12:	lotion Senso	r Local 🗎
Motion Se	nsor		
Generic			Local 🔒
Control4 V	Vireless Motio	n Sensor	
Control4			Local

Double click on the Motion Sensor (Generic) to add it to your project.

Go to Connections, Control AV and highlight your camera (under Items). The camera alarms are then displayed in Control & Audio Connections Section.

Connections		Control & Audio V	ideo Conn	ections			
Control/AV	Network	LILIN 5 Series					
	· ^ • •	Name	Туре	Connection	Input/Output	Connected To	
		Control Outputs					
- Work		Motion Detection	Control	CONTACT_SENSOR	Output		
General Office		Alarm Detection	Control	CONTACT_SENSOR	Output		
🖃 🔁 Main		Proxy					
Hidden Room		a Camera	Proxy	CAMERA	Output	LILIN 5 Series->Camera	
-// LILIN 5 Series		CONTACT CENCOR Inves					
Motion Sensor		CONTACT_SENSOR Input	Devices				
🕀 🐨 Main Rack		Device		Name		Location	Connections
🗈 💽 Cameras		M Sensor		Contact Sensor		Room	
E-Living Room		Alarm		Contact Sensor		Room	
te- (♥ NVR		ANPR Allowed		Contact Sensor		Cameras	SG1122LPR->Alarm Detection
B-V Decoder		ANPR Denied		Contact Sensor		Cameras	SG1122LPR->Motion Detection
🕀 💽 Display 1		Training Room Motion Se	ensor	Contact Sensor		Cameras	
🕀 👿 Display 2		Allowed		Contact Sensor		Cameras	
B- ♥ Projector		Visitor		Contact Sensor		Cameras	
B- Room		For Driver Test		Contact Sensor		Cameras	
B- Training Room Left		Stairs Motion		Contact Sensor		Cameras	Stairs->Motion Detection
Image: Berger Traning Room Right		Motion Sensor		Contact Sensor		CCTV	

9LILIN.

Highlight the alarm you want – Either Motion or Alarm Detection and drag it to your Generic Motion Sensor to Bind the Alarm.

Control & Audio Video Connections						
LILIN 5 Series						
Name	Туре	Connection	Input/Output	Connected To		
Control Outputs					1	
Motion Detection	Control	CONTACT_SENSOR	Output	Motion Sensor->Contact Sensor		
Alarm Detection	Control	CONTACT_SENSOR	Output			
Proxy						
💄 Camera	Proxy	CAMERA	Output	LILIN 5 Series->Camera		
CONTACT_SENSOR Input De	evices					
Device		Name		Location	Connections	
M Sensor	M Sensor Contact Sensor		Room			
Alarm	Alarm Contact Sensor		Room			
ANPR Allowed Contact Sensor		Cameras	SG1122LPR->Alarm Detection			
ANPR Denied Contact Sensor		Cameras	SG1122LPR->Motion Detection			
Training Room Motion Sensor Contact Sensor		Contact Sensor		Cameras		
Allowed Contact Sensor		Cameras				
Visitor Contact Sensor		Cameras				
For Driver Test Contact Sensor		Cameras				
Stairs Motion	Motion Contact Sensor		Cameras	Stairs->Motion Detection		
Motion Sensor		Contact Sensor		CCTV	LILIN 5 Series->Motion Detection	

You can check if the Control4 system is receiving alarms. Go to system Design and under the camera advance properties set Debug level to 5 – Trace & Debug mode to Print – then press set.

Advanced Properties			
Properties Actions Documentation Lua			
Camera Model	Z5R6422X3		
Camera Series	5		
Firmware	9.0.001.1599		
Detections	motion alarm_in		
HTTP POST port	54541		
PTZ	IP Auto focus		
H264 Stream	stream1 V		
Pan Tilt Zoom Increment	7		
Sync with C4 Time	No v		
Debug Level	5 - Trace V	Set	Cancel
Debug Mode	Print V	Set	Cancel
Zoom Type	AF Series V		



Select Lua Tab

dvanced Properties			
Properties Actions Documentation Lua			
Lua Command	Ln 1 Col 1 Font Execute Clear		
Lua Output	Pause Scrolling Ln 7 Col 1 Clear		
Starting Timer: Debug			
Starting Timer: Motion Dwell			
Starting Timer: Motion Dwell			
Starting Timer: Motion Dwell			
Starting limer: Hotion Dwell			
on peri spire notombeeco			
1			
The Control4 DriverWorks SDK uses Lua as its programming language. http://www.lua.org			
Lua is Copyright (c) 1994-2018 Lua.org, PUC-Rio.			

Above you can see Motion Alarms from the Camera being received & below Digital Input alarms being received.

Avanced Properties	
Lua Command	Ln 1 Col 1 Font Execute Clear
Lua Output	Pause Scrolling Ln 6 Col 1 Clear
OnPropertyChanged(Debug Mode) changed to: Print Starting Timer: Debug	
OnPropertyChanged(Debug Level) changed to: 5 - Trace	
On Dwell Expired AlarmInputDetect	
The Control4 DriverWorks SDK uses Lua as its programming language.	
Lua is Copyright (c) 1994-2018 Lua.org, PUC-Rio.	
The state of the s	

Next simply program the Generic Motion Alarm to whatever action you require.

Contact

Contact <u>lilin.zendesk.com</u> for technical support.