

Distance Learning Tracking Camera

DL30/DL10

Control Codes

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Contents

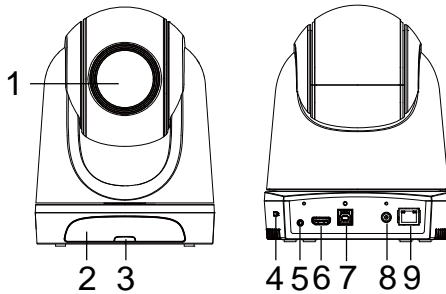
Revision History	1
Product Introduction	2
Overview-DL30	2
Overview-DL10	2
Visca Command Table-DL Series	3
Visca over IP Settings	8
CGI Command Table-DL Series	9
Example Codes-DL Series	12

Revision History

Revision	Published	Description
V1.0	February 2021	<ul style="list-style-type: none">• First edition.
V1.1	February 2021	<ul style="list-style-type: none">• Swap page between CGI command and VISCA over IP settings.
V1.2	March 2021	<ul style="list-style-type: none">• Update CGI command and example code.
V1.3	December 2021	<ul style="list-style-type: none">• Added DL10 into control code;• Refreshed More Help and Contact Information for Headquarters and regional offices.

Product Introduction

Overview-DL30



(1) Camera Lens	(4) Kensington Lock	(7) USB Port
(2) IR Sensor	(5) Audio In*	(8) DC Power Jack
(3) LED Indicator	(6) HDMI Port**	(9) PoE+ Port***

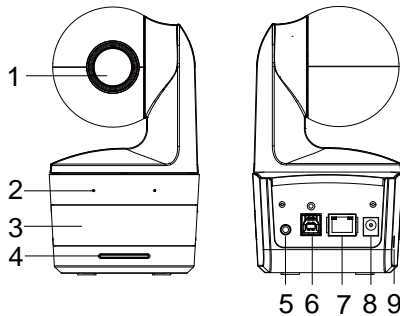
*Line input level: 1Vrms (max)

*Mic input level: 50mVrms (max); Supplied voltage: 3.3V

**DL30 does not support HDMI port.

***Only support IEEE 802.3at PoE+ standard.

Overview-DL10



(1) Camera Lens	(4) LED Indicator	(7) Ethernet Port
(2) Built-in Microphones	(5) Audio In*	(8) DC Power Jack
(3) IR Sensor	(6) USB Port	(9) Kensington Lock

*Line input level: 1Vrms (max)

*Mic input level: 50mVrms (max); Supplied voltage: 3.3V

Visca Command Table-DL Series

Command Set	Command	Command Packet	Comments	DL30	DL10
CAM_Power	On	8x 01 04 00 02 FF	Power ON/OFF	o	o
	Off	8x 01 04 00 03 FF		o	o
CAM_Zoom	Stop	8x 01 04 07 00 FF	p=0 (Low) to 7 (High)	o	o
	Tele(Variable)	8x 01 04 07 2p FF		o	o
	Wide(Variable)	8x 01 04 07 3p FF		o	o
CAM_Focus	Stop	8x 01 04 08 00 FF		o	o
	Auto Focus	8x 01 04 38 02 FF		o	o
	Manual Focus	8x 01 04 38 03 FF		o	o
	One Push	8x 01 04 18 01 FF		o	o
	Direct	8x 01 04 47 0p 0q 0r 0s FF	pqrs: Zoom Position	o	o
CAM_WB	Auto	8x 01 04 35 00 FF	Normal Auto	o	o
	ATW	8x 01 04 35 04 FF		o	o
	Indoor	8x 01 04 35 01 FF		o	o
	Outdoor	8x 01 04 35 02 FF		o	o
	One Push WB	8x 01 04 35 03 FF	One Push WB mode	o	o
	Manual	8x 01 04 35 05 FF	Manual Control mode	o	o
	One Push	8x 01 04 10 05 FF	One Push WB Trigger	o	o
CAM_RGain	Up	8x 01 04 03 02 FF	Manual Control of R Gain	o	o
	Down	8x 01 04 03 03 FF		o	o
CAM_Bgain	Up	8x 01 04 04 02 FF	Manual Control of B Gain	o	o
	Down	8x 01 04 04 03 FF		o	o
CAM_AE	Full Auto	8x 01 04 39 00 FF	Automatic Exposure mode	o	o

	Manual	8x 01 04 39 03 FF	Manual Control mode	○	○
	Shutter Priority	8x 01 04 39 0A FF	Shutter Priority Automatic Exposure mode	○	○
	Iris Priority	8x 01 04 39 0B FF	Iris Priority Automatic Exposure mode	○	✗
	Bright	8x 01 04 39 0D FF	Bright Mode (Manual control)	○	○
CAM_Shutter	Up	8x 01 04 0A 02 FF	Shutter Setting	○	○
	Down	8x 01 04 0A 03 FF		○	○
CAM_Iris	Up	8x 01 04 0B 02 FF	Iris Setting	○	✗
	Down	8x 01 04 0B 03 FF		○	✗
CAM_Gain	Up	8x 01 04 0C 02 FF	Gain Setting	○	○
	Down	8x 01 04 0C 03 FF		○	○
CAM_Bright	Up	8x 01 04 0D 02 FF	Bright Setting	○	○
	Down	8x 01 04 0D 03 FF		○	○
	Up	8x 01 04 0E 02 FF	Exposure Compensation Amount Setting	○	○
	Down	8x 01 04 0E 03 FF		○	○
CAM_Backlight	On	8x 01 04 33 02 FF	Back Light Compensation ON/OFF	✗	✗
	Off	8x 01 04 33 03 FF			
CAM_Preset	Reset	8x 01 04 3F 00 pp FF	pp: Preset Number 0x00-0xFF	○	○
	Set	8x 01 04 3F 01 pp FF		○	○
	Recall	8x 01 04 3F 02 pp FF		○	○
CAM_Menu	On/Off	8x 01 06 06 10 FF	Display ON/OFF	✗	✗
Pan-tilt Drive	Up	8x 01 06 01 VV WW 03 01	VV: Pan speed setting 0x01 (low speed) to 0x18 (high speed)	○	○
	Down	8x 01 06 01 VV WW 03 02	WW: Tilt speed setting 0x01 (low speed) to 0x18 (high speed)	○	○
	Left	8x 01 06 01 VV WW		○	○

		01 03			
	Right	8x 01 06 01 VV WW 02 03		o	o
	UpLeft	8x 01 06 01 VV WW 01 01		o	o
	UpRight	8x 01 06 01 VV WW 02 01		o	o
	DownLeft	8x 01 06 01 VV WW 01 02		o	o
	DownRight	8x 01 06 01 VV WW 02 02		o	o
	Stop	8x 01 06 01 VV WW 03 03		o	o
	Home	8x 01 06 04 FF		o	o
	Reset	8x 01 06 05 FF		x	x
CAM_Wdr	On	8x 01 04 3D 02 FF	Wdr ON/OFF	o	o
	Off	8x 01 04 3D 03 FF		o	o
CAM_MenuEnter		8x 01 7E 01 02 00 01 FF	Enter Submenu	x	x
Tally Lamp ON		8x 01 7E 01 0A 00 02 FF		x	x
Tally Lamp OFF		8x 01 7E 01 0A 00 03 FF		x	x
Freeze	Freeze On	81 01 04 62 02 FF	Freeze On Immediately	x	x
	Freeze Off	81 01 04 62 03 FF	Freeze Off Immediately	x	x
	Preset Freeze On	81 01 04 62 22 FF	Freeze On When Running Preset	o	o
	Preset Freeze Off	81 01 04 62 23 FF	Freeze Off When Running Preset	o	o

Auto Tracking	On	8x 01 04 7D 02 FF	Auto tracking ON/OFF	<input type="radio"/>	<input type="radio"/>
	Off	8x 01 04 7D 03 FF		<input type="radio"/>	<input type="radio"/>
CAM_Memory Special	Set	8x 01 04 3F 01 pp FF	pp: 0x00 To 0xFF normal preset pp: 0x5F => Turn on OSD menu pp: 0xA0 => Full Body pp: 0xA1 => Upper Body pp: 0xA2 => Tracking Point pp: 0xA3 => Switch pp: 0xA4 => Presenter mode (support with FW v25 or newer) pp: 0xA5 => Zone mode (support with FW v25 or newer)	Turn on OSD menu X Full Body <input type="radio"/> Upper Body <input type="radio"/> Tracking Point X Switch <input type="radio"/> Presenter mode <input type="radio"/> Zone mode <input type="radio"/>	Turn on OSD menu X Full Body <input type="radio"/> Upper Body <input type="radio"/> Tracking Point X Switch <input type="radio"/> Presenter mode <input type="radio"/> Zone mode <input type="radio"/>

Inquiry Command	Command Packet	Reply Packet	Comments	DL30	DL10
CAM_PowerInq	8x 09 04 00 FF	y0 50 02 FF	On	<input type="radio"/>	<input type="radio"/>
		y0 50 03 FF	Off	<input type="radio"/>	<input type="radio"/>
CAM_WBModelInq	8x 09 04 35 FF	y0 50 00 FF	Auto	<input type="radio"/>	<input type="radio"/>
		y0 50 01 FF	In Door	<input type="radio"/>	<input type="radio"/>
		y0 50 02 FF	Out Door	<input type="radio"/>	<input type="radio"/>
		y0 50 03 FF	One Push WB	<input type="radio"/>	<input type="radio"/>
		y0 50 04 FF	ATW	<input type="radio"/>	<input type="radio"/>
		y0 50 05 FF	Manual	<input type="radio"/>	<input type="radio"/>
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pp: R Gain	<input type="radio"/>	<input type="radio"/>
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pp: B Gain	<input type="radio"/>	<input type="radio"/>
CAM_AEModelInq	8x 09 04 39 FF	y0 50 00 FF	Full Auto	<input type="radio"/>	<input type="radio"/>
		y0 50 03 FF	Manual	<input type="radio"/>	<input type="radio"/>
		y0 50 0A FF	Shutter Priority	<input type="radio"/>	<input type="radio"/>
		y0 50 0B FF	Iris Priority	<input type="radio"/>	<input type="radio"/>

		y0 50 0D FF	Bright	o	o
CAM_ShutterPosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: Shutter Position	o	o
CAM_IrisPosInq	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq: Iris Position	o	X
CAM_GainPosInq	8x 09 04 4C FF	y0 50 00 00 0p 0q FF	pq: Gain Position	o	o
CAM_BrightPosInq	8x 09 04 4D FF	y0 50 00 00 0p 0q FF	pq: Bright Position	o	o
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Position	o	o
CAM_FocusModelInq	8x 09 04 38 FF	y0 50 02 FF	Auto Focus	o	o
		y0 50 03 FF	Manual Focus	o	o
CAM_FocusPosInq	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus Position	o	o
CAM_ZoomPosInq	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqrs: Zoom Position	o	o

Visca over IP Settings

VISCA over IP

PORT

Internet protocol	IPv4
Transport protocol	UDP
Port address	52381

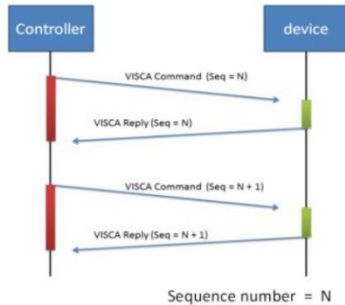
FORMAT

func	byte 0	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte8 ~~~~	byte23	
	Payload type		Payload length		Sequence number				Payload (1 to 16 bytes)		
data	Value1	Value2	1~16 (0x001~0x010)		0X00000000 ~ 0XFFFFFFF				VISCA Packet (see page VISCA)		

Payload type

Name	Value1	Value2	Description
VISCA command	0x01	0x00	Stores the VISCA command.
VISCA inquiry	0x01	0x10	Stores the VISCA inquiry.
VISCA reply	0x01	0x11	Stores the reply for the VISCA command or VISCA inquiry

Sequence number



The x value should be 1 for Visca-over-IP string,

Example string: 01 00 00 09 00 00 00 01 81 01 06 01 07 07 01 03 FF

CGI Command Table-DL Series

CGI List for Video Transmission						DL30/DL10
CGI item name	URL	Command	Parameter Name	Parameter value	Description	
Get JPEG	/snapshot				1280x720 jpg	848x480 jpg
Get RTSP stream	rtsp://ip/live_st1					o

CGI List for Camera Control						DL30/DL10
CGI item name	URL	Command	Parameter Name	Parameter value	Description	
up start	/cgi-bin?SetPtzf=	1,0,1&(random)				o
up end	/cgi-bin?SetPtzf=	1,0,2&(random)				o
down start	/cgi-bin?SetPtzf=	1,1,1&(random)				o
down end	/cgi-bin?SetPtzf=	1,1,2&(random)				o
left start	/cgi-bin?SetPtzf=	0,1,1&(random)				o
left end	/cgi-bin?SetPtzf=	0,1,2&(random)				o
right start	/cgi-bin?SetPtzf=	0,0,1&(random)				o
right end	/cgi-bin?SetPtzf=	0,0,2&(random)				o
zoom_in start	/cgi-bin?SetPtzf=	2,0,1&(random)				o
zoom_in end	/cgi-bin?SetPtzf=	2,0,2&(random)				o
zoom_out start	/cgi-bin?SetPtzf=	2,1,1&(random)				o
zoom_out end	/cgi-bin?SetPtzf=	2,1,2&(random)				o
set preset:	/cgi-bin?ActPreset=	1,N&(random)			N : position	o
load preset:	/cgi-bin?ActPreset=	0,N&(random)			N : position	o

CGI List for Various Settings						DL30/DL10
CGI item name	URL	Command	Parameter Name	Parameter value	Description	
exposure value	/cgi-bin?Set=	img_expo_expo,3,N&(random)	value	1 ~ 9	N : value	o
saturation	/cgi-bin?Set=	img_saturation,3,N&(random)	value	0 ~ 10	N : value	o
contrast	/cgi-bin?Set=	img_contrast,3,N&(random)	value	0 ~ 4	N : value	o

Tracking on:	/cgi-bin?Set=	trk_tracking_on,3,1				<input type="radio"/>
Tracking off:	/cgi-bin?Set=	trk_tracking_on,3,0				<input type="radio"/>
Tracking Presenter Mode:	/cgi-bin?Set=	trk_mode,3,1&(random)				<input type="radio"/>
Tracking Zone Mode:	/cgi-bin?Set=	trk_mode,3,2&(random)				<input type="radio"/>
Reboot	/cgi-bin?OnePush=!					<input type="radio"/>
Factory Reset	/cgi-bin?OnePush=d					<input type="radio"/>
Mode Presenter	/cgi-bin?Set=	trk_mode,3,1&(random)				<input type="radio"/>
Mode Zone	/cgi-bin?Set=	trk_mode,3,2&(random)				<input type="radio"/>
Mode Get	/cgi-bin?Get=	trk_mode,3&(random)			Reply: trk_mode,3=1 : Presenter(Wide Area) trk_mode,3=2 : Zone(Segment)	<input type="radio"/>
Update Detect Info	/cgi-bin?Set=	trk_update_detect,3,1			Use this CGI to update data before getting the detect zone info	<input type="radio"/>
Click Track Get detect zone number	/cgi-bin?Get=	trk_detect_num,3			Reply: trk_detect_num,3=X X: Number of detected people, up to 50. (Use "Update Detect Info" CGI first)	<input type="radio"/>
Click Track Get detect zone info	/cgi-bin?GetTrackingDetectZone=X (X: Number of human shape box that user want to get)				Reply: focus: XX zone[00]:840,703,207,379 zone[01]:1176,724,240,350 XX - current tracking box number zone[NN]:x,y,w,h - box coordinate(based on 1080p)	<input type="radio"/>
Click Track	/cgi-bin?SetString=	TrackingFocusZone,[x,y,w,h]			[x,y,w,h]: Position of tracking	<input type="radio"/>

Set target zone					target (based on 1080p)	
Click Track	/cgi-bin?Set=	trk_assign_zone,3,X			X: Human shape box number of tracking target	○
Tracking On/Off Get	/cgi-bin?Get=	trk_tracking_on,3			Reply: trk_tracking_on,3=1 : On trk_tracking_on,3=0 : Off	○
Sleep Timer	/cgi-bin?Set=	sys_sleep_time,3,N	value	0, 10, 300, 600, 1200	N : value (0 : Off)	○

Example Codes-DL Series

Example codes

Assuming the camera having an IP address of 10.10.10.5

Up start : [http://10.10.10.5/cgi-bin?SetPtf=1,0,2&\(1234\)](http://10.10.10.5/cgi-bin?SetPtf=1,0,2&(1234))

Zoom in start : [http://10.10.10.5/cgi-bin?SetPtf=2,0,1&\(1235\)](http://10.10.10.5/cgi-bin?SetPtf=2,0,1&(1235))

Tracking on : http://10.10.10.5/cgi-bin?Set=trk_tracking_on,3,1

Tracking off : http://10.10.10.5/cgi-bin?Set=trk_tracking_on,3,0

The (random) code is user defined and can be any unique code in sequence. This ID cannot be the same, otherwise the camera will ignore this command.

Example codes:

There are the examples for saturation, exposure, and contrast.

Saturation

example: [http://10.10.10.5/cgi-bin?Set=img_saturation,3,10&\(1238\)](http://10.10.10.5/cgi-bin?Set=img_saturation,3,10&(1238)) <= the red value **10** is the value of saturation.

Exposure example #1:

[http://10.10.10.5/cgi-bin?Set=img_expo_expo,3,9&\(1239\)](http://10.10.10.5/cgi-bin?Set=img_expo_expo,3,9&(1239)) <= the red value **9** is the value of exposure, the exposure value (-4 ~ 4) in system is 4.

Exposure example #2:

[http://10.10.10.5/cgi-bin?Set=img_expo_expo,3,1&\(1240\)](http://10.10.10.5/cgi-bin?Set=img_expo_expo,3,1&(1240)) <= the red value **1** is the value of exposure, the exposure value (-4 ~ 4) in system is -4.

Contrast example:

[http://10.10.10.5/cgi-bin?Set=img_contrast,3,4&\(1241\)](http://10.10.10.5/cgi-bin?Set=img_contrast,3,4&(1241)) <= the red value 4 is the value of contrast.

Sleep Timer example #1:

http://10.10.10.5/cgi-bin?Set=sys_sleep_time,3,0 <= The red value 0 is the value of sleep timer. 0 means disable the sleep timer.

Sleep Timer example #2:

http://10.10.10.5/cgi-bin?Set=sys_sleep_time,3,300 <= The red value 300 is the value of sleep timer. 300 means set the sleep timer to 5 min (300sec).