

# **ROTO-CONTROL SERIAL API**

Version 1.1

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# **Revision History**

Version	Date	Change
1.0	23/02/2025	First release.
1.1	07/04/2025	This version is NOT backwards compatible with v1.0.
		Updates to support MACRO PLUGINs and MACRO params:
		GET CURRENT PLUGIN
		GET FIRST PLUGIN
		GET NEXT PLUGIN
		GET PLUGIN
		GET PLUGIN KNOB CONFIG
		SET PLUGIN KNOB CONFIG

# Compatibility

Version	Compatibility
1.0	ROTO-SETUP v1.0.0
	ROTO-SETUP v1.1.1
	ROTO-SETUP v1.1.2
1.1	ROTO-SETUP v1.1.3

# 1. Introduction

The ROTO-CONTROL SERIAL API allows an external device to query and configure a ROTO-CONTROL device via a simple binary format. The interface used is a serial (COM) port via USB.

The interface is bi-directional in that commands can be sent to ROTO-CONTROL and received from ROTO-CONTROL asynchronously:

**TO ROTO**: External device sends command -> ROTO-CONTROL sends back response.

**FROM ROTO**: ROTO-CONTROL sends a command to the external device asynchronously; no external device response is needed.

The serial port configuration is as follows:

• 115200 baud, 8-bit data, no parity, 1 stop-bit.

Note 1: For conciseness ROTO-CONTROL is also referred to as ROTO throughout this document.

Note 2: All values are specified in hexadecimal.

#### 1.2 Commands Overview

Type	Sub-type	Description	То	From
			ROTO	ROTO
01:	01: GET FW	Returns the ROTO-CONTROL firmware	Υ	N
GENERAL	VERSION	version.		
	02: GET MODE	Get the current ROTO-CONTROL mode.	Υ	N
	03: SET MODE	Sets the ROTO-CONTROL mode.	Υ	Υ
	04: START	Start an update of a ROTO-CONTROL config	Υ	N
	CONFIG			
	UPDATE			
	05: END	End an update of a ROTO-CONTROL config	Υ	N
	CONFIG			
	UPDATE			
	06: FACTORY	Performs a factory rest of the ROTO-CONTROL	Υ	N
	RESET	unit.		
02: MIDI	01: GET	Returns the current MIDI setup	Υ	N
MODE	CURRENT			
	SETUP			
	02: GET SETUP	Returns the specified MIDI setup	Υ	N
	03: SET SETUP	Selects the specified MIDI setup	Υ	Υ
	04: SET SETUP	Sets the current MIDI setup name		
	NAME			
	05: GET KNOB	Returns the configuration of a MIDI knob	Υ	N
	CONTROL	control.		
	CONFIG			
	06: GET	Returns the configuration of a MIDI switch	Υ	N
	SWITCH	control		
	CONTROL			
	CONFIG			
	07: SET KNOB	Sets the configuration of a MIDI knob control.	Υ	N
	CONTROL			
	CONFIG			

	1			1
	08: SET	Sets the configuration of a MIDI switch	Υ	N
	SWITCH	control.		
	CONTROL			
	CONFIG			
	09: CLEAR	Clears a knob or switch control config	Υ	N
	CONTROL	_		
	CONFIG			
	0A: CLEAR	Clears a MIDI setup	Υ	N
	MIDI SETUP	olears a mist seeap	•	.,
	0B: MIDI	A MIDI control was learned on ROTO-	N	Υ
	CONTROL	CONTROL		
	LEARNED	CONTROL		
03:	+	Poturns the current DILICIN config	Υ	N
os. PLUGIN			ľ	IN
MODE	PLUGIN	B + H C + BUUGUN C	.,,	
	02: GET FIRST	Returns the first PLUGIN config	Υ	N
	PLUGIN			
	03: GET NEXT	Returns the next PLUGIN config, call multiple	Υ	N
	PLUGIN	times to get all device PLUGIN configs		
	04: GET	Gets the specified PLUGIN	Υ	N
	PLUGIN			
	05: SET PLUGIN	The specified PLUGIN has been selected	N	Υ
	06: ADD	Adds the specified PLUGIN	Υ	N
	PLUGIN			
	07: SET PLUGIN	Set the PLUGIN name	Υ	N
	NAME			
	08: CLEAR	Clear (delete) the PLUGIN	Υ	N
	PLUGIN	,		
	09: GET	Get the PLUGIN knob control config	Υ	N
	PLUGIN KNOB	det the readily know control coming	•	.,
	CONFIG			
	0A: GET	Gets the PLUGIN switch control config	Υ	N
	SWITCH	dets the readily switch control coming	· ·	14
	CONFIG			
		Cata the DILICIN Imah control config	Y	N.I.
	OB: SET PLUGIN	Sets the PLUGIN knob control config	Y	N
	KNOB CONFIG			
	OC: SET PLUGIN	Sets the PLUGIN switch control config	Υ	N
	SWITCH			
	CONFIG			1
	0D: CLEAR	Clears the PLUGIN knob or switch control	Υ	N
	PLUGIN	config		
	CONTROL			
	CONFIG			
	0E: PLUGIN	A PLUGIN control was learned on ROTO-	N	Υ
	CONTROL	CONTROL		
	LEARNED			

Note: For each command, the first byte of the response is A5 followed by the response code. If this byte indicates an error, no further specified bytes will follow.

# 2. GENERAL Commands: 01

# 2.1 GET FW VERSION: 01

TO ROTO: Y FROM ROTO: N

#### Command

5A 01 01 <CL:2>

CL = Command data length, MSB followed by LSB = 0000

#### Response

0xA5 <RC VX VY VZ GC:7>

RC = Response code: SUCCESS (00), ERROR (all other values)

VX = ROTO-CONTROL major version

VY = ROTO-CONTROL minor version

VZ = ROTO-CONTROL patch version

GC = Short GIT commit in ASCII bytes

# 2.2 GET MODE: 02

TO ROTO: Y FROM ROTO: N

#### Command

0x5A 01 02 <CL:2>

CL = Command data length, MSB followed by LSB = 0000

#### Response

A5 <RC AM PI>

RC = Response code: SUCCESS (00), ERROR (all other values)

AM = ROTO-CONTROL Mode: MIDI (00), PLUGIN (01), MIX (02)

PI = Page index in multiples of 8 (00 = Page 1, 08 = Page 2, etc.)

#### 2.3 SET MODE: 03

TO ROTO: Y FROM ROTO: Y

# Command

5A 01 03 <CL:2 AM PI>

CL = Command data length, MSB followed by LSB = 0002

AM = ROTO-CONTROL Mode: MIDI (00), PLUGIN (01), MIX (02)

PI = Page index in multiples of 8 (00 = Page 1, 08 = Page 2, etc.)

#### Response

A5 <RC>

RC = Response code: SUCCESS (00), ERROR (all other values)

#### 2.4 START CONFIG UPDATE: 04

TO ROTO: Y FROM ROTO: N

#### Command

5A 01 04 <CL:2>

 ${\tt CL}$  = Command data length, MSB followed by LSB = 0000

#### Response

A5 <RC>

```
RC = Response code: SUCCESS (00), ERROR (all other values)
```

# 2.5 END CONFIG UPDATE: 05

TO ROTO: Y FROM ROTO: N

#### Command

5A 01 05 <CL:2>

 ${\tt CL}$  = Command data length, MSB followed by LSB = 0000

#### Response

A5 <RC>

RC = Response code: SUCCESS (00), ERROR (all other values)

# 2.6 FACTORY RESET: 06

TO ROTO: Y FROM ROTO: N

Note: This command reformats the file system, all saved MIDI setups and PLUGIN configs will be erased.

#### Command

5A 01 06 <CL:2>

CL = Command data length, MSB followed by LSB = 0000

#### Response

A5 <RC>

RC = Response code: SUCCESS (00), ERROR (all other values)

# 3. MIDI Commands: 02

# 3.1 GET CURRENT SETUP: 01

TO ROTO: Y FROM ROTO: N

#### Command

5A 02 01 <CL:2>

CL = Command data length, MSB followed by LSB = 0000

#### Response

A5 <RC SI SN:0D>

RC = Response code: SUCCESS (00), ERROR (all other values)

SI = Setup index 00 - 3F

 ${\tt SN}$  = Setup name: 0D-byte NULL terminated ASCII string, padded with 00s if needed

# 3.2 GET SETUP: 02

#### TO ROTO: Y FROM ROTO: N

#### Command

5A 02 02 <CL:2 SI>

CL = Command data length, MSB followed by LSB = 0001

SI = Setup index: 00 - 3F

#### Response

A5 <RC SI SN:0D>

RC = Response code: SUCCESS (00), ERROR (all other values)

SI = Setup index 00 - 3F

SN = Setup name: OD-byte NULL terminated ASCII string, padded with OOs if needed

# 3.3 SET SETUP: 03

#### TO ROTO: Y FROM ROTO: Y

# Command

5A 02 03 <CL:2 SI>

 ${\tt CL}$  = Command data length, MSB followed by LSB = 0001

SI = Setup index: 00 - 3F

### Response

A5 <RC>

RC = Response code: SUCCESS (00), ERROR (all other values)

#### 3.4 SET SETUP NAME: 04

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

#### Command

5A 02 04 <CL:2 SI SN:0D>

 ${\tt CL}$  = Command data length, MSB followed by LSB = 000E

SI = Setup index: 00 - 3F

```
SN = Setup name: 0D-byte NULL terminated ASCII string, padded with 00s if needed

Response

A5 <RC>
RC = Response code: SUCCESS (00), ERROR (all other values)
```

#### 3.5 GET KNOB CONTROL CONFIG: 05

TO ROTO: Y FROM ROTO: N

```
Command
5A 02 05 <CL:2 SI CI>
CL = Command data length, MSB followed by LSB = 0001
SI = Setup index: 00 - 3F
CI = Control index: 00 - 1F
Response
A5 <RC SI CI CM CC CP NA:2 MN:2 MX:2 CN:0D CS HM IP1 IP2 HS SN:10*0D>
RC = Response code: SUCCESS (00), ERROR (all other values)
SI = Setup index: 00 - 3F
CI = Control index: 00 - 1F
CM = Control Mode: CC-7BIT (00), CC-14BIT (01), NRPN-7BIT (02), NRPN-14-BIT (03)
CC = Control channel: 01 - 10
CP = Control param: set to FF if unused
NA = NRPN address
MN = Min value, set the MSB to 00 for 7-BIT mode
MX = Max value, set the MSB to 00 for 7-BIT mode
CN = Control name: OD-byte NULL terminated ASCII string, padded with 00s if needed
CS = Colour scheme: 00 - 52
HM = Haptic mode: KNOB 300 (00), KNOB N STEP (01)
IP1 = Indent position 1: 00 - 7F, FF if unused, only applies for KNOB 300
IP2 = Indent position 2: 00 - 7F, FF if unused, only applies for KNOB 300
HS = Haptic steps: 02 - 10, only applies for KNOB N STEP
SN = An array of 10 \times OD-byte NULL terminated ASCII strings, each string padded with 00s if
needed
```

#### 3.6 GET SWITCH CONTROL CONFIG: 06

TO ROTO: Y FROM ROTO: N

```
Command

5A 02 06 <CL:2 SI CI>
CL = Command data length, MSB followed by LSB = 0002
SI = Setup index: 00 - 3F
CI = Control index: 00 - 1F

Response

A5 <RC SI CI CM CC CP NA:2 MN:2 MX:2 CN:0D CS LN LF HM HS SN:10*0D>
RC = Response code: SUCCESS (00), ERROR (all other values)
SI = Setup index: 00 - 3F
CI = Control index: 00 - 1F
CM = Control Mode: CC-7BIT (00), CC-14BIT (01), NRPN-7BIT (02), NRPN-14-BIT (03)
CC = Control channel: 01 - 10
CP = Control param
```

```
NA = NRPN address
MN = Min value, set the MSB to 00 for 7-BIT mode
MX = Max value, set the MSB to 00 for 7-BIT mode
CN = Control name: OD-byte NULL terminated ASCII string, padded with 00s if needed
CS = Colour scheme: 00 - 52
LN = LED ON colour: 00 - 52
LF = LED OFF colour: 00 - 52
HM = Haptic mode: PUSH (00), TOGGLE (01)
HS = Haptic steps: 00 or 02 - 10
SN = An array of 10 x OD-byte NULL terminated ASCII strings, each string padded with 00s if needed
```

#### 3.7 SET KNOB CONTROL CONFIG: 07

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command
5A 02 07 <CL:2 SI CI CM CC CP NA:2 MN:2 MX:2 CN:0D CS HM IP1 IP2 HS SN:HS*0D>
CL = Command data length, MSB followed by LSB = 001D + (HS * 0D)
SI = Setup index: 00 - 3F
CI = Control index: 00 - 1F
CM = Control Mode: CC-7BIT (00), CC-14BIT (01), NRPN-7BIT (02), NRPN-14-BIT (03)
CC = Control channel: 01 - 10
CP = Control param: Set to FF if unused
NA = NRPN address
MN = Min value, set the MSB to 00 for 7-BIT mode
MX = Max value, set the MSB to 00 for 7-BIT mode
CN = Control name: 0D-byte NULL terminated ASCII string, padded with 00s if needed
CS = CS = Colour scheme: 00 - 52
HM = Haptic mode: KNOB 300 (00), KNOB N STEP (01)
IP1 = Indent position 1: 00 - 7F, FF if unused, only applies for KNOB_300
IP2 = Indent position 2: 00 - 7F, FF if unused, only applies for KNOB 300
HS = Haptic steps: 02 - 10, only applies for KNOB N STEP
{\tt SN} = An array of HS x 0D-byte NULL terminated ASCII strings, each string padded with 00s if
needed
Response
A5 <RC>
RC = Response code: SUCCESS (00), ERROR (all other values)
```

#### 3.8 SET SWITCH CONTROL CONFIG: 08

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command

5A 02 08 <CL:2 SI CI CM CC CP NA:2 MN:2 MX:2 CN:0D CS LN LF HM HS SN:HS*0D>

CL = Command data length, MSB followed by LSB = 001D + (HS * 0D)
```

```
SI = Setup index 00 - 3F
CI = Control index: 00 - 1F
CM = Control Mode: CC-7BIT (00), CC-14BIT (01), NRPN-7BIT (02), NRPN-14-BIT (03)
CC = Control channel: 01 - 10
CP = Control param
NA = NRPN address
MN = Min value, set the MSB to 00 for 7-BIT mode
MX = Max value, set the MSB to 00 for 7-BIT mode
CN = Control name: 0D-byte NULL terminated ASCII string, padded with 00s if needed
CS = CS = Colour scheme: 00 - 52
LN = LED ON colour: 00 - 52
LF = LED OFF colour: 00 - 52
HM = Haptic mode: PUSH (00), TOGGLE (01)
{
m HS} = Haptic steps: 00 or 02 - 10, set to 00 if a normal two position switch with no haptic
SN = An array of HS x OD-byte NULL terminated ASCII strings, each string padded with OOs if
needed
Response
A5 <RC>
RC = Response code: SUCCESS (00), ERROR (all other values)
```

#### 3.9 CLEAR CONTROL CONFIG: 09

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command

5A 02 09 <CL:2 SI CT CI>
CL = Command data length, MSB followed by LSB = 0003
SI = Setup index 00 - 3F
CT = Control type: KNOB (00), SWITCH (01)
CI = Control index: 00 - 1F

Response
A5 <RC>
RC = Response code: SUCCESS (00), ERROR (all other values)
```

# 3.10 CLEAR MIDI SETUP: OA

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command

5A 02 0A <CL:2 SI>
CL = Command data length, MSB followed by LSB = 0001
SI = Setup index 00 - 3F

Response
A5 <RC>
```

```
RC = Response code: SUCCESS (00), ERROR (all other values)
```

# 3.11 MIDI CONTROL LEARNED: 0B

TO ROTO: N FROM ROTO: Y

Note: This command is also sent from ROTO-CONTROL when a MIDI control is cleared.

```
Command

5A 02 0B <CL:2 SI CT CI>
CL = Command data length, MSB followed by LSB = 0003
SI = Setup index 00 - 3F
CT = Control type: KNOB (00), SWITCH (01)
CI = Control index: 00 - 1F

Response
N/A
```

# 4. PLUGIN Commands: 03

# 4.1 GET CURRENT PLUGIN: 01

TO ROTO: Y FROM ROTO: N

#### Command

5A 03 01 <CL:2>

CL = Command data length, MSB followed by LSB = 0000

#### Response

A5 <RC PH:8 PN:0D PM>

RC = Response code: SUCCESS (00), NO PLUGIN (FD), ERROR (all other values)

PH = Plugin hash

PN = Plugin name: OD-byte NULL terminated ASCII string, padded with 00s if needed

PM = MACRO Plugin: NO (00), YES (01)

#### 4.2 GET FIRST PLUGIN: 02

TO ROTO: Y FROM ROTO: N

#### Command

5A 03 02 <CL:2>

 ${\tt CL}$  = Command data length, MSB followed by LSB = 0000

#### Response

A5 <RC PH:8 SN:0D PM>

RC = Response code: SUCCESS (00), NO PLUGIN (FD), ERROR (all other values)

PH = Plugin hash

SN = Setup name: OD-byte NULL terminated ASCII string, padded with OOs if needed

PM = MACRO Plugin: NO (00), YES (01)

# 4.3 GET NEXT PLUGIN: 03

TO ROTO: Y FROM ROTO: N

#### Command

5A 03 03 <CL:2>

 ${\tt CL}$  = Command data length, MSB followed by LSB = 0000

### Response

A5 <RC PH:8 PN:0D PM>

RC = Response code: SUCCESS (00), NO PLUGIN (FD), ERROR (all other values)

PH = Plugin hash

PN = Plugin name: OD-byte NULL terminated ASCII string, padded with 00s if needed

PM = MACRO Plugin: NO (00), YES (01)

# **4.4 GET PLUGIN: 04**

TO ROTO: Y FROM ROTO: N

#### Command

5A 03 04 <CL:2 PH:8 PM>

CL = Command data length, MSB followed by LSB = 0008

PH = Plugin hash

# Response A5 <RC PH:8 PN:0D PM> RC = Response code: SUCCESS (00), NO PLUGIN (FD), ERROR (all other values) PH = Plugin hash PN = Plugin name: 0D-byte NULL terminated ASCII string, padded with 00s if needed PM = MACRO Plugin: NO (00), YES (01)

# **4.5 SET PLUGIN: 05**

TO ROTO: N FROM ROTO: Y

Note: This command is sent from ROTO-CONTROL when a PLUGIN (or no PLUGIN) has been selected.

```
Command

5A 03 05 <CL:2 PH:8>
CL = Command data length, MSB followed by LSB = 0008
PH = Plugin hash (all FFs if no PLUGIN is currently set)

Response
N/A
```

#### 4.6 ADD PLUGIN: 06

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command

5A 03 05 <CL:2 PH:8 PN:0D>
CL = Command data length, MSB followed by LSB = 0015
PH = Plugin hash
PN = Plugin name: 0D-byte NULL terminated ASCII string, padded with 00s if needed

Response
A5 <RC>
RC = Response code: SUCCESS (00), PLUGIN EXISTS (FC), ERROR (all other values)
```

### 4.7 SET PLUGIN NAME: 07

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command

5A 03 07 <CL:2 PH:8 PN:0D>
CL = Command data length, MSB followed by LSB = 0015
PH = Plugin hash
PN = Plugin name: 0D-byte NULL terminated ASCII string, padded with 00s if needed

Response
A5 <RC>
RC = Response code: SUCCESS (00), NO PLUGIN (FD), ERROR (all other values)
```

#### 4.8 CLEAR PLUGIN: 08

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command

5A 03 08 <CL:2 PH:8>
CL = Command data length, MSB followed by LSB = 0008
PH = Plugin hash

Response

A5 <RC>
RC = Response code: SUCCESS (00), NO PLUGIN (FD), ERROR (all other values)
```

# 4.9 GET PLUGIN KNOB CONFIG: 09

TO ROTO: Y FROM ROTO: N

```
Command
5A 03 09 <CL:2 PH:8 CI>
CL = Command data length, MSB followed by LSB = 0009
PH = Plugin hash
CI = Control index: 00 - 3F
Response
A5 <RC PH:8 CI MI:2 MH:6 MA MN:2 MX:2 CN:0D CS HM IP1 IP2 HS SN:10*0D>
RC = Response code: SUCCESS (00), NO PLUGIN/CONTROL (FD), ERROR (all other values)
PH = Plugin hash
CI = Control index: 00 - 3F
MI = Mapped param index
MH = Mapped param hash
MA = MACRO param: NO (00), YES (01)
MN = Min value
MX = Max value
CN = Control name: OD-byte NULL terminated ASCII string, padded with 00s if needed
CS = CS = Colour scheme: 00 - 52
HM = Haptic mode: KNOB 300 (00), KNOB N STEP (01)
IP1 = Indent position 1: 00 - 7F, FF if unused, only applies for KNOB 300
IP2 = Indent position 2: 00 - 7F, FF if unused, only applies for KNOB_300
HS = Haptic steps: 02 - 10, only applies for KNOB N STEP
SN = An array of 10 \times OD-byte NULL terminated ASCII strings, each string padded with 00s if
needed
```

#### 4.10 GET PLUGIN SWITCH CONFIG: 0A

TO ROTO: Y FROM ROTO: N

```
Command

5A 03 0A <CL:2 PH:8 CI>
CL = Command data length, MSB followed by LSB = 0009
PH = Plugin hash
```

```
CI = Control index: 00 - 3F
Response
A5 <RC PH:8 CI MI:2 MH:6 MN MX CN:0D CS LN LF HM HS SN:10*0D>
RC = Response code: SUCCESS (00), NO PLUGIN/CONTROL (FD), ERROR (all other values)
PH = Plugin hash
CI = Control index: 00 - 3F
MI = Mapped param index
MH = Mapped param hash
MN = Min value
MX = Max value
CN = Control name: OD-byte NULL terminated ASCII string, padded with 00s if needed
CS = CS = Colour scheme: 00 - 52
LN = LED ON colour: 00 - 52
LF = LED OFF colour: 00 - 52
HM = Haptic mode: PUSH (00), TOGGLE (01)
HS = Haptic steps: 00 or 02 - 10
SN = An array of 10 \times OD-byte NULL terminated ASCII strings, each string padded with 00s if
needed
```

#### 4.11 SET PLUGIN KNOB CONFIG: 0B

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command
5A 03 0B <CL:2 PH:8 CI MI:2 MH:6 MN:2 MX:2 CN:0D CS HM IP1 IP2 HS SN:HS*0D>
CL = Command data length, MSB followed by LSB = 0027 + (HS * 0D)
PH = Plugin hash
CI = Control index: 00 - 3F
MI = Mapped param index
MH = Mapped param hash
MA = MACRO param: RFU, always set to 00
MN = Min value
MX = Max value
CN = Control name: 0D-byte NULL terminated ASCII string, padded with 00s if needed
CS = CS = Colour scheme: 00 - 52
HM = Haptic mode: KNOB 300 (00), KNOB N STEP (01)
IP1 = Indent position 1: 00 - 7F, FF if unused, only applies for KNOB 300
IP2 = Indent position 2: 00 - 7F, FF if unused, only applies for KNOB 300
HS = Haptic steps: 02 - 10, only applies for KNOB N STEP
{\tt SN} = An array of {\tt HS} x {\tt OD-byte} {\tt NULL} terminated ASCII strings, each string padded with {\tt OOs} if
needed
Response
RC = Response code: SUCCESS (00), NO PLUGIN/CONTROL (FD), ERROR (all other values)
```

# 4.12 SET PLUGIN SWITCH CONFIG: 0C

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command
5A 03 0C <CL:2 PH:8 CI MI:2 MH:6 MN MX CN:0D CS LN LF HM HS SN:HS*0D>
CL = Command data length, MSB followed by LSB = 0025 + (HS * 0D)
PH = Plugin hash
CI = Control index: 00 - 3F
MI = Mapped param index
MH = Mapped param hash
MN = Min value
MX = Max value
CN = Control name: 0D-byte NULL terminated ASCII string, padded with 00s if needed
CS = CS = Colour scheme: 00 - 52
LN = LED ON colour: 00 - 52
LF = LED OFF colour: 00 - 52
HM = Haptic mode: PUSH (00), TOGGLE (01)
{
m HS} = Haptic steps: 00 or 02 - 10, set to 00 if a normal two position switch with no haptic
strings
{
m SN} = An array of HS x 0D-byte NULL terminated ASCII strings, each string padded with 00s if
needed
Response
A5 <RC>
RC = Response code: SUCCESS (00), NO PLUGIN/CONTROL (FD), ERROR (all other values)
```

#### 4.13 CLEAR PLUGIN CONTROL CONFIG: 0D

TO ROTO: Y FROM ROTO: N

Note: A config update session must be started using START CONFIG UPDATE for this command to be processed.

```
Command

5A 03 0D <CL:2 PH:8 CT CI>
CL = Command data length, MSB followed by LSB = 000A
PH = Plugin hash
CT = Control type: KNOB (00), SWITCH (01)
CI = Control index: 00 - 3F

Response
A5 <RC>
RC = Response code: SUCCESS (00), NO PLUGIN/CONTROL (FD), ERROR (all other values)
```

#### 4.14 PLUGIN CONTROL LEARNED: 0E

TO ROTO: N FROM ROTO: Y

Note: This command is also sent from ROTO-CONTROL when a PLUGIN control is cleared.

```
Command

5A 03 0E <CL:2 PH:8 CT CI>
CL = Command data length, MSB followed by LSB = 000A
PH = Plugin hash
```

```
CT = Control type: KNOB (00), SWITCH (01)
CI = Control index: 00 - 3F
```

# Response

N/A