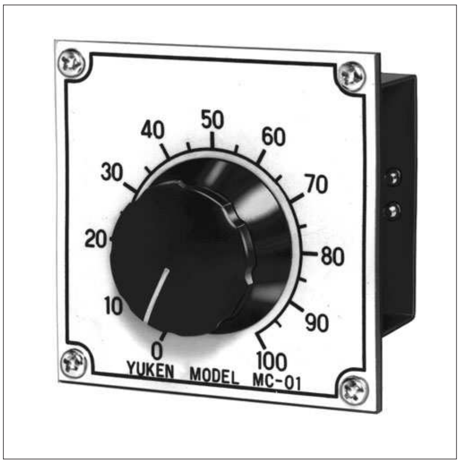
Setting Adjusters

The setting adjuster supplies the command signal voltage to the power amplifier. Since the setting adjuster is closely related to actual machine operating procedure, the user generally provides this device. Yuken makes the following standard setting adjusters for general use and designs and manufactures special setting adjusters to order.

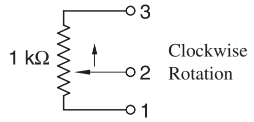


Type	Model Number	Function
Manually Operated Setting Adjuster	MC-01	This is the simplest setting adjuster, consisting of a trimmer (1 kΩ) and a dial.
	MC-02	Consisting of a centre-tapped trimmer (1 kΩ - 1 kΩ) and a dial, this setting adjuster is ideal for a servo system.
6-point Setting Adjuster	AMC-V6-S-*-10	Six trimmers are incorporated, so it is possible to set six points.
Multifunction Slope Controller	AMC-T-20	This multifunction slope controller generates any desired two-channel analog voltage patttern outputs. It can also be used with slope-proportional and time-proportional systems.
Slope Controller	AMN-T-10	Slope and output can be set optionally 4-bit signal.

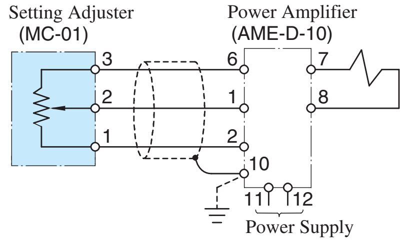
Manually Operated Setting Adjuster

MC-01

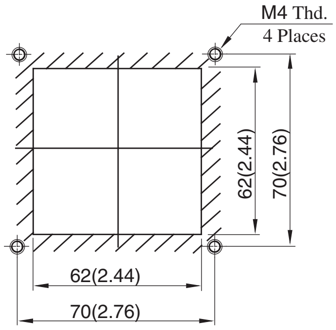
[Electric Circuit]

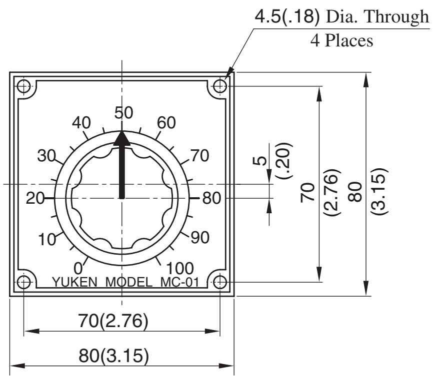


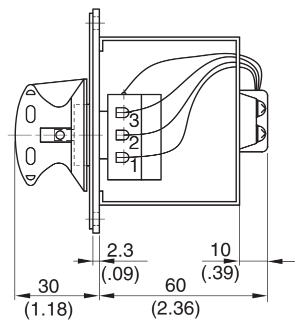
[Example Diagram]

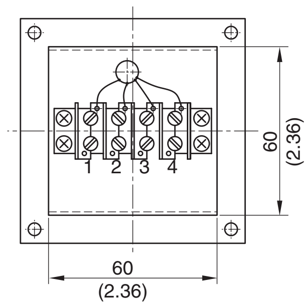


[Mounting Panel]









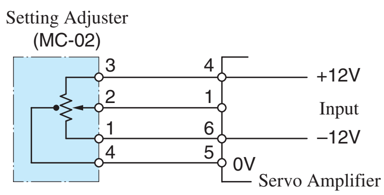
DIMENSIONS IN
MILLIMETRES (INCHES)

MC-02

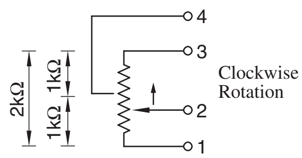
[How to Use]

This setting adjuster is for using positive and negative voltages to the right and left of the zero point. Most suitable for servo systems. Please contact us for usage details.

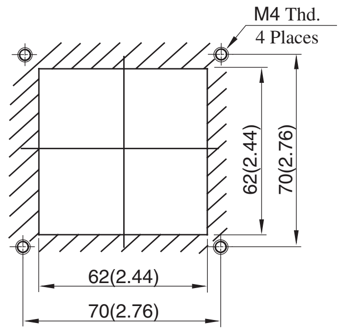
[Example Diagram]

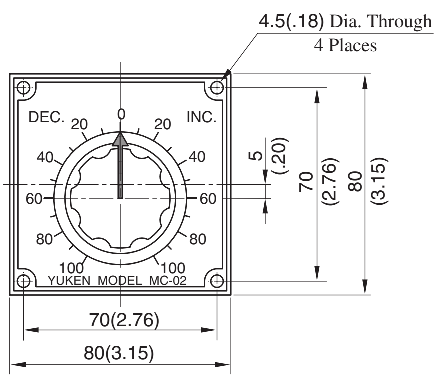


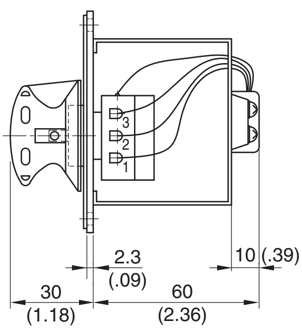
[Electric Circuit]

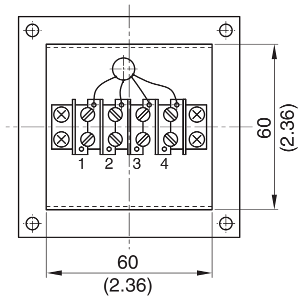


[Mounting Panel]









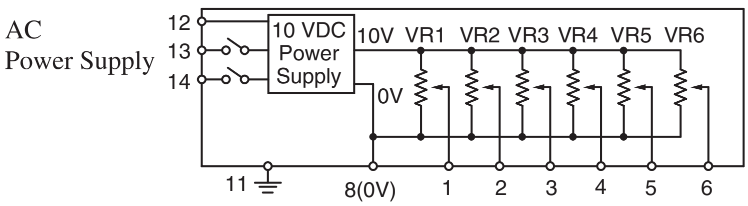
DIMENSIONS IN
MILLIMETRES (INCHES)

6-Point Setting Adjuster

AMC-V6-S-∗-10

Power Supply
100 .... 100 VAC
200 .... 200 VAC
220 .... 220 VAC

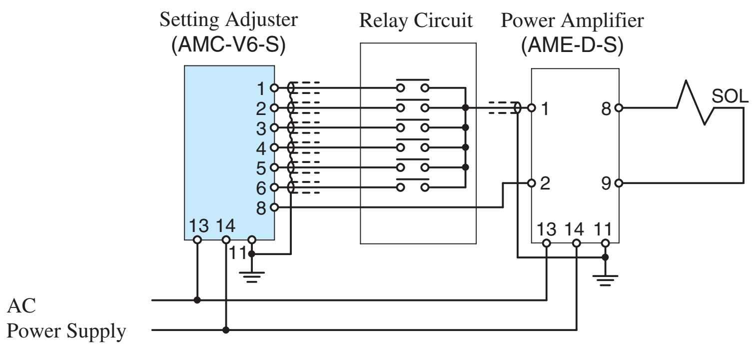
[Electric Circuit]

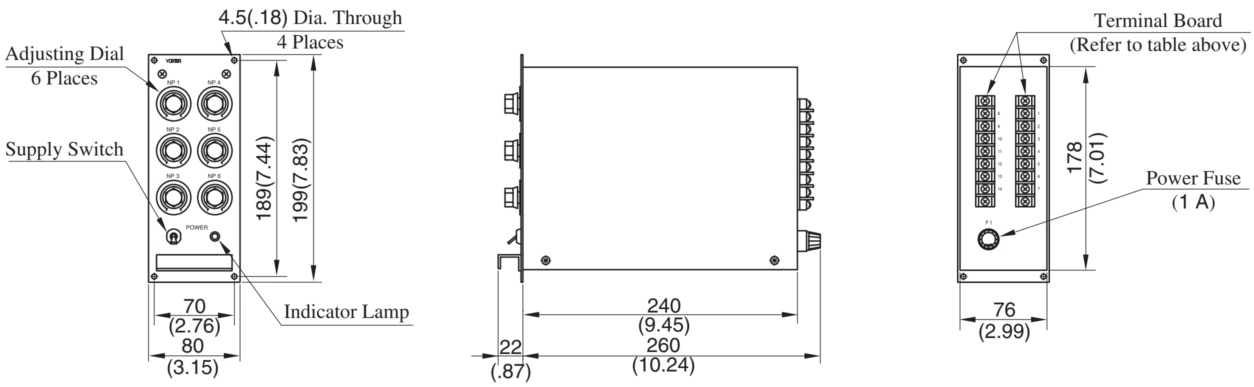


● Detail of Terminal Board

Terminal Number	Name	
1	1 OUT (VR1)	
2	2 OUT (VR2)	
3	3 OUT (VR3)	
4	4 OUT (VR4)	
5	5 OUT (VR5)	
6	6 OUT (VR6)	
7	—	
8	0V	COM
9	—	
10	—	
11	Ground	G
12	Power Supply 85 – 265 VAC	
13		
14		

[Example Diagram]





DIMENSIONS IN
MILLIMETRES (INCHES)

Multifunction Slope Controllers

This controller can generate any desired two-channel analog voltage pattern outputs and can be used with slope-constant and time-constant systems. Although two-channel outputs can be used independently, this controller can also be used as a setting adjuster for the EH Series variable piston pumps.

Model Number Designation

AMC	-T	-20
Series Number	Type of Function	Design Number
AMC: Setting Adjuster	**T** : Acceleration/deceleration signal type (Slope Controller)	**20**

Specifications

Description / Model No.	AMC-T-20
Number of Output Channels	2 channels (A, B)
Maximum Output Range	0 - +5 V ★, 0 - ±5 V, 0 - +10 V, 0 - ±10 V (The settings are DIP switch selectable)
Two Categories of Slopes	Slope-constant ★ With a level change, the slope will not change (but arrival time changes.) Time-constant With a level change, the time will not change (but the slope changes.) (to be selected by DIP switch)
Acceleration/Deceleration Signal Type	4 Types: Polygonal Line Signal★ : 1 Type; Curve Compensation Signal : 3 Types (to be selected by DIP switch)
Max. Slope Time	5 s★, 20 s, 50 s, 100 s (The settings are DIP switch selectable)
Setting Resolution	The level and slope settings are variable in 0.1% units from 0 to ±99.9%
Control Mode Number of Preselected Patterns	Mode 1, 4-bit binary code input, 15 patterns Mode 2, 6-bit binary code input, 63 patterns Mode 3, Timer control, 9 patterns (4 variations)
Stop Mode (Applicable Only for Control Mode 1)	ON : The stop mode is to retain the state of controller output at the instant an external input signal is interrupted. When the external signal is input again, the operation is resumed from the retained state. OFF★ : When external input signal is interrupted, function goes back to the initial setting (Pattern No.0).
Control Input Signal	Current input type, 10 mA /bit max. Usable as a voltage input type (voltage range: 8 to 48V DC) Photocoupler insulation input
Control Output Signal	Output from transister open collector Max. 30V, 50 mA
Data Save	EEP-ROM (Battery not needed)
Power Supply	100/200 V AC, 50/60 Hz (85-260 V AC)
Power Input	10 VA or less
Ambient Temperature	0-50˚C (32-122˚F)
Ambient Humidity	85%RH or less (Bedewing must be avoided)
Approx. Mass	1 kg (2.2 lbs.)

Note: ★ Indicates preset conditions.

Instructions

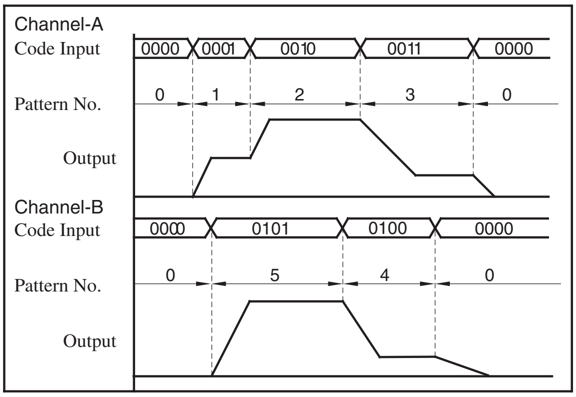
- Since this controller incorporates a micro computer, do subject it to undue electrical noise.

Control Modes

One among the following three types of control modes can be chosen by changing DIP swicth.

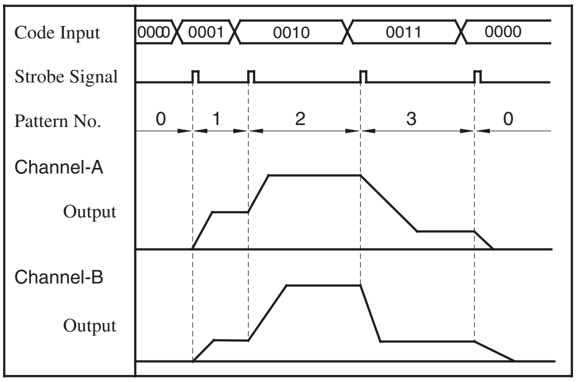
● Control Mode 1

Channels A and B generate optional slopes independently each other.



● Control Mode 2

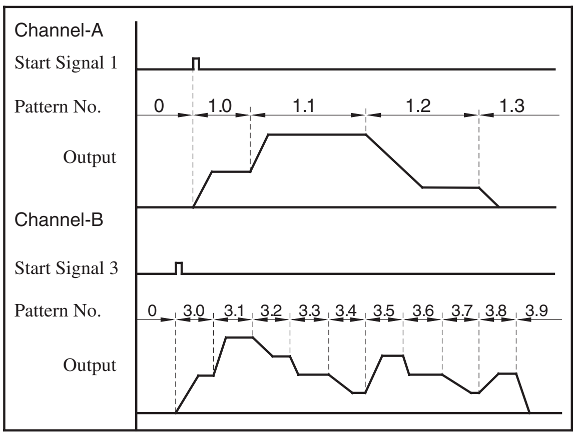
A slope is generated by a strobe signal (signal for change to next signal). Channels A and B operate synchronously.



● Control Mode 3

The internal timer is activated by a start signal, causing the slopes to be generated successively in memory.

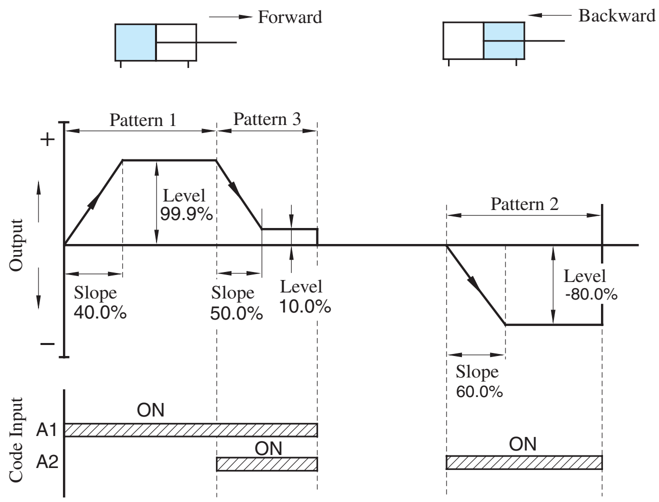
Channels A and B operate independently.



Setting Example

● Control Mode 1 Channel - A

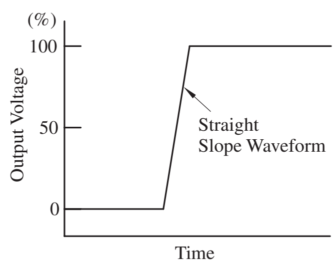
Code Input				Pattern No.	Setting %		Remarks
A8	A4	A2	A1		Level	Slope	
OFF	OFF	OFF	OFF	0	0	0	Stop
OFF	OFF	OFF	ON	1	99.9	40.0	Cylinder forward acceleration
OFF	OFF	ON	OFF	2	-80.0	60.0	Cylinder backward acceleration
OFF	OFF	ON	ON	3	10.0	50.0	Cylinder forward deceleration
ON	ON	ON	ON	15	10.0	10.0	



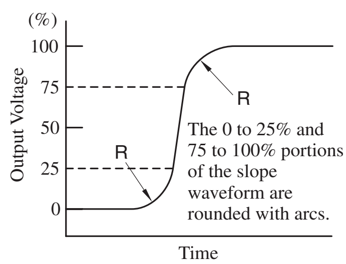
Slope Type

One among the follwing four types can be chosen by changing DIP switch.

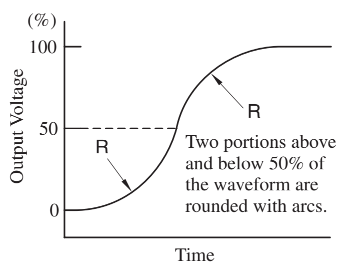
● Type 1



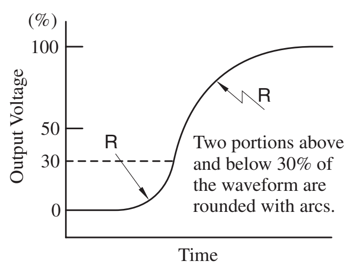
● Type 2



● Type 3

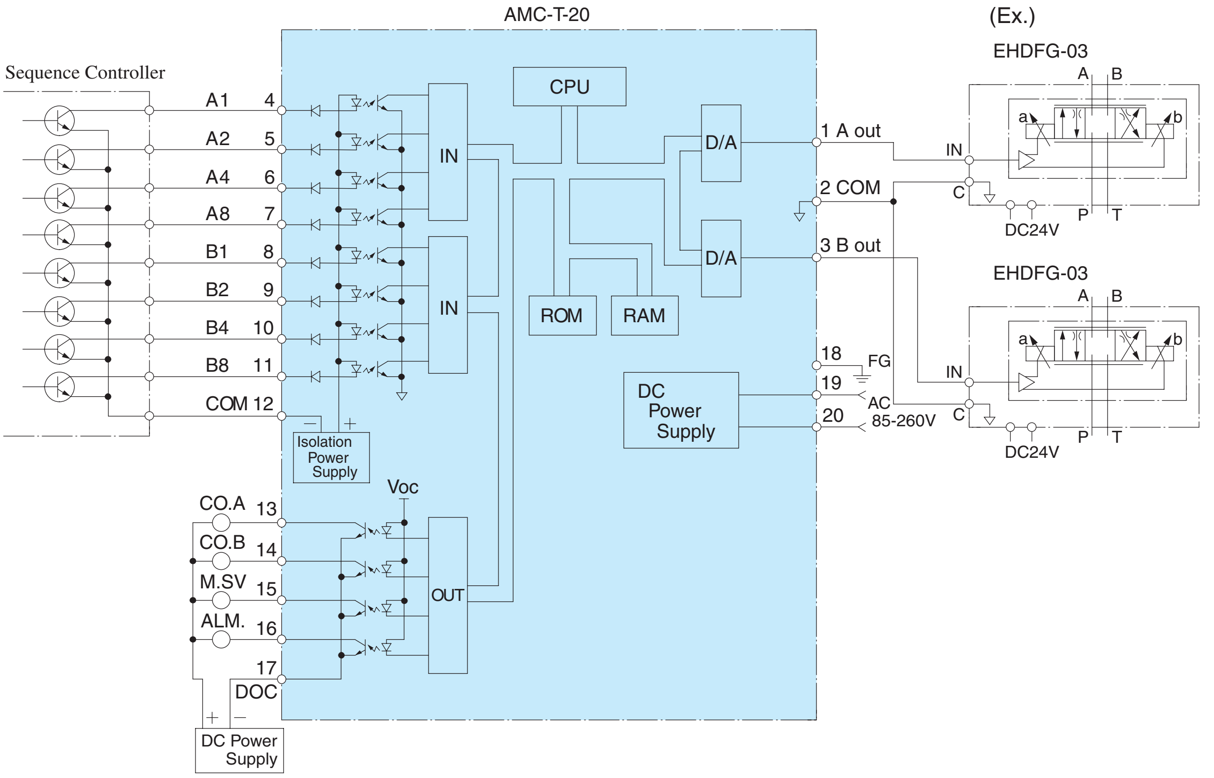


● Type 4



AMC-T-20

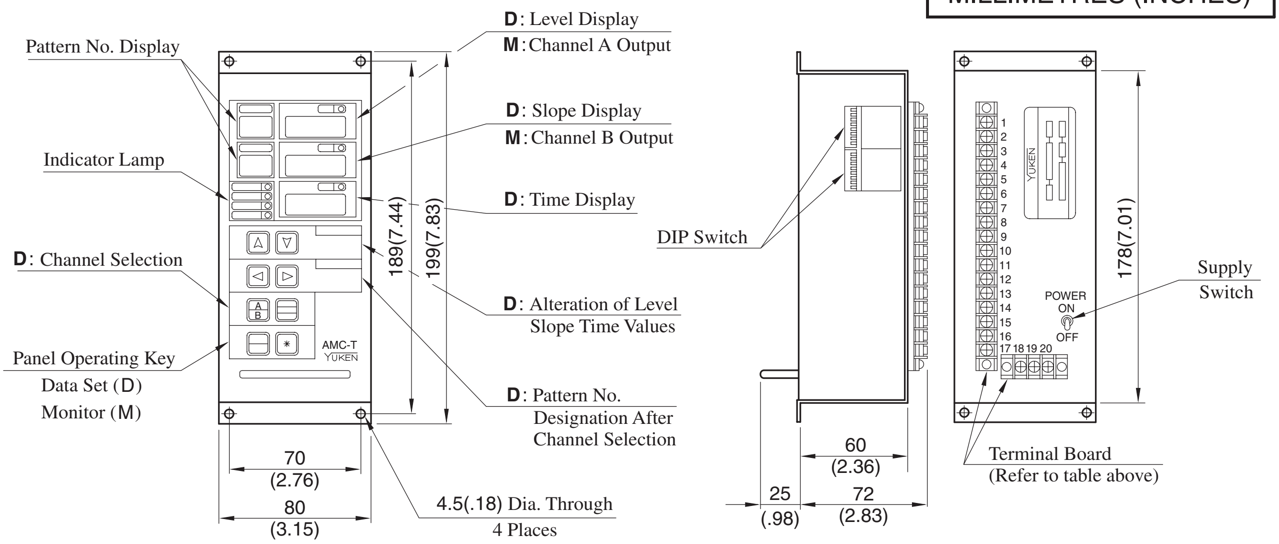
[Example Diagram]



Detail of Terminal Board

Terminal Number	Name		Terminal Number	Name	
1	Channel A Output	A out	11	Code Input	B8
2	Common	COM	12	Code Input Common	DCOM
3	Channel B Output	B out	13	Coincidental Output Signal with "A"	CO.A
4	Code Input	A1	14	Coincidental Output Signal with "B"	CO.B
5	Code Input	A2	15	Data Save Signal	M.SV
6	Code Input	A4	16	Alarm Signal Output	ALM.
7	Code Input	A8	17	Output Common	DOC
8	Code Input	B1	18	Frame Ground	FG
9	Code Input	B2	19	Power Supply	AC
10	Code Input	B4	20		

DIMENSIONS IN MILLIMETRES (INCHES)



Interchangeability between Current and New Design

Specifications

Specifications unchanged unless specified below.

Description \ Model No.	New : AMC-T-20	Current : AMC-T-10
Control Output Signal	Output from transister open collector Max. 30 V, 50 mA	Output from transister open collector Max. 30 V, 10 mA
Slope Types	4 Types Polygonal Line Signal : 1 Type Curve Compensation Signal : 3 Types (to be selected by DIP switch)	1 Type : Polygonal Line Signal
Stop Mode (Applicable only for Control Mode 1)	ON, OFF	——
Data Save	EEP-ROM Battery not needed	Battery Required
Approx. Mass	1 kg (2.2 lbs.)	1.8 kg (4.0 lbs.)

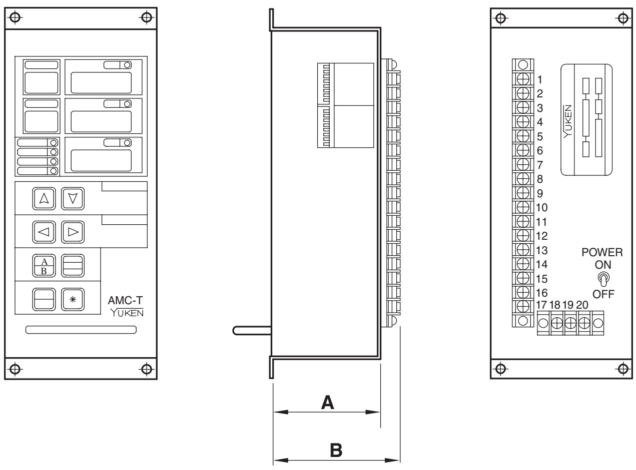
Terminal

The following are differences between current and new.

Terminal Number	Name: New : Design 20	Name: Current : Design 10	Remarks
13	Coincidental Output Signal with "A" "CO.A"	Coincidental Output Signal with "A" "DO1"	Abbreviation of the terminals are changed, though functionally the same.
14	Coincidental Output Signal with "B" "CO.B"	Coincidental Output Signal with "B" "DO2"	
15	Data Save Signal "M.SV"	——	Added new functions.
16	Alarm Signal Output "ALM."	——	

Interchangeability in Installation

There is an interchangeability in installation, although depths (dimensions "**A**" and "**B**") are different.



Model Numbers		mm (Inches) A	mm (Inches) B
Current	AMC-T-10	185 (7.28)	200 (7.87)
New	AMC-T-20	60 (2.36)	72 (2.83)

Slope Controllers

This slope controller is considerably smaller and lighter compared to conventional slope controllers.
4-bit switching signals allow the pattern output of given levels and acceleration/deceleration times. One-touch disconnection is supported. The mass and the volume have been reduced to one-fifth and one-fourth, respectively.

Model Number Designation

AMN	-T	-10
Series Number	Type of Function	Design Number
AMN	**T** : Slope Controller	**10**

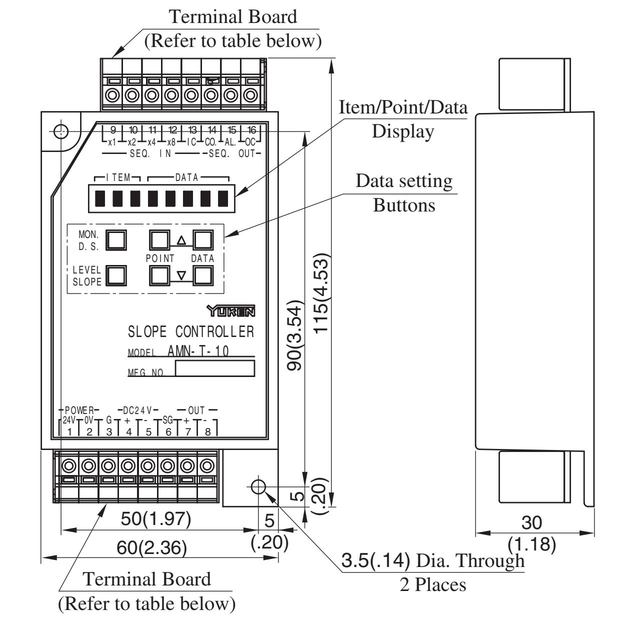
Specifications

Model Numbers / Description	AMN-T-10
Number of Output Channels	1 channel
Maximum Output Range	0 – +5 V (Factory Preset) 0 – +10 V ±5 V ±10 V
Maximum Slope Time	● Slope-constant type:★1 1-9999 s/Max. Output signal (Factory Setting, 5 s) ● Time-constant type:★2 1–9999 s (Can be set in 1 second increments)
Acceleration/Deceleration★3 Signal Type	Polygonal Line Signal: 1 Type (Factory Setting) Curve Compensation Signal: 3 Type
Setting Resolution	The level and slope setting are variable in 0.1 % units from 0 to ±99.9%
Number of Preselected Patterns	4-bit binary code input 15 patterns
Sequence Input	Input Current: 10 mA/24 V Voltage Range: 10 – 28 V
Sequence Output	Load Current: Max. 50 mA Supply Voltage: Max. 32 V
Power Supply Voltage	24 VDC (20 – 30 VDC)
Power Input	3 W
Ambient Temperature	0 – 50 °C (32 – 122 °F)
Ambient Humidity	90 % RH or less
Approx. Mass	0.2 kg (.44 lbs)

★1. A fixed slope means that the slope endpoint time changes while the slope gradient remains unchanged when the level is changed.
★2. A fixed time means that the slope endpoint time remains unchanged when the level is changed.
★3. The same slope types as those for the multifunction slope controller are supported. See page 789 for details.

AMN-T-10

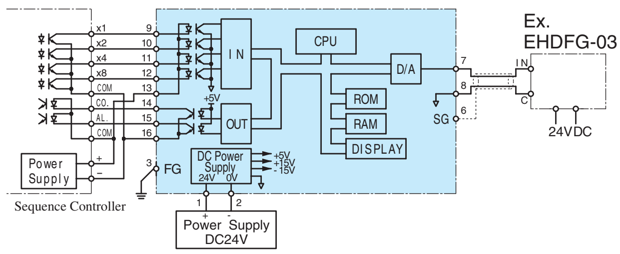
DIMENSIONS IN MILLIMETRES (INCHES)



Detail of Terminal Board

Terminal Number	Name		Terminal Number	Name	
1	Power Supply	+24V	9	Sequence Input	×1
2	Power Supply	0V	10	Sequence Input	×2
3	Frame Ground	G	11	Sequence Input	×4
4	Internal Power Supply	+24V	12	Sequence Input	×8
5	Internal Power Supply	0V	13	Sequence Input	IN COM
6	Signal Ground	SG	14	Sequence Output	COL N.
7	Output Signal	+	15	Sequence Output	ALARM
8	Output Signal	–	16	Sequence Output	OUT COM

[Example Diagram]



Instructions

● Since this controller incorporates a micro computer, do subject it to undue electrical noise.