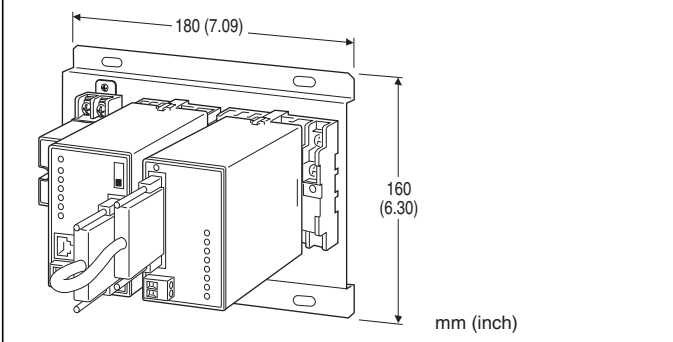


Telemetry System

TELEMETERING SYSTEM

Functions & Features

- Small-scale telemetry system
- Lightning arrester protecting telephone circuit standard
- Approved of Technical Requirements Compliance Approval by Japan Approvals Institute for Telecommunications Equipment
- Isolation between telephone circuit, I/O and power
- Easy-to-handle plugin construction for each component: Communication Module, Modem Module, Lightning Arrester
- Self-diagnosis
- Monitor LED provided for contact I/O modules



MODEL: DAST-20-[1][2]-K

ORDERING INFORMATION

- Code number: DAST-20-[1][2]-K
- Specify a code from below for each of [1] and [2].
(e.g. DAST-20-1MC81-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

[2] I/O SECTION

Master Station

- MC81:** Contact outputs, 4 open collector outputs
- ME5:** Contact I/O, 4 dry contact inputs
4 open collector outputs
- MM4:** Analog outputs, 4 voltage outputs
- MR3:** Analog I/O, 4 voltage inputs
4 voltage outputs
- MS6:** Contact & analog outputs
4 open collector outputs
4 voltage outputs
- MS8:** Contact inputs & analog outputs
4 dry contact inputs

4 voltage outputs

MU4: Analog & pulse outputs

4 voltage outputs

4 pulse outputs (open collector)

MS4: Contact, analog & pulse outputs

2 open collector outputs

4 voltage outputs

2 pulse outputs (open collector)

Local Station

SA41: Contact inputs, 4 dry contact inputs

SE5: Contact I/O, 4 dry contact inputs

4 open collector outputs

SG4: Analog inputs, 4 voltage inputs

SR3: Analog I/O, 4 voltage inputs

4 voltage outputs

SS5: Contact & analog inputs

4 dry contact inputs

4 voltage inputs

SS7: Contact outputs & analog inputs

4 open collector outputs

4 voltage inputs

SP4: Analog & pulse inputs

4 voltage inputs

4 dry contact pulse inputs

SS3: Contact, analog & pulse inputs

2 dry contact inputs

4 voltage outputs

2 dry contact pulse inputs

POWER INPUT

AC Power

K: 85 - 132 V AC

(Operational voltage range 85 - 132 V, 47 - 66 Hz)

APPLICATION TO NTT

Application form is available at local NTT sales offices.

"Guide for Application for Dedicated Circuit Lease" is provided for free for detailed explanation.

COMMON SPECIFICATIONS

Construction: lightning arrester, modem and I/O modules mounted on a chassis for surface mounting

Connection

- **Telephone circuit:** M4 screw terminals (torque 0.8 N·m)
 - **Power & I/O:** M3.5 screw terminals (torque 0.8 N·m)
 - **RUN contact output:** Euro type connector terminal (Applicable wire size: $\leq 1.25 \text{ mm}^2$, stripped length 8 mm)
 - **Grounding:** M4 screw terminal (torque 0.8 N·m)
- Screw terminal**
- **Telephone circuit & grounding:** Nickel-plated steel
 - **Power & I/O:** Chromated steel

Material

Chassis: black chromate-plated steel

Housing: flame-resistant resin (black)

Isolation: telephone circuit to I/O to power

Self-diagnosis

CPU: watch-dog timer

Memory: sum check

Power voltage: detects when the voltage supply to the CPU drops by 10 %.

■ RUN CONTACT OUTPUT

RUN contact output: contact opens when the self-diagnosis detects an abnormality or with a transmission error.

Rating: 120V AC or 30V DC @1A (resistive load)

MODEM & LIGHTNING ARRESTER

■ 50 BPS TYPE

•Modem (model: MOD1-K)

Telephone circuit: NTT leased circuit, 50 bps

Sending voltage: ±50 V max.

Sending current: ±20 mA ±3 mA

Transmission method: earth-return

Transmission rate: 50 bps

No. of circuits: 1

Approval No.: L02-0066

•Lightning Arrester (model: MDP-MFA)

Discharge voltage

Between B - C: ±110 V min.

Between B or C - A: ±55 V min.

Between each line - G: ±500 V max.

Maximum surge voltage

Between 2 - 3: ±320 V max.

Between 2 or 3 - 1: ±160 V max.

Between each line - G: ±650 V max.

Response time: ≤0.1 μsec.

Discharge current capacity: 5000 A (8 / 20 msec.)

Maximum load current: 100 mA

Internal series resistance: approx. 20 Ω including return

Leakage current

Between B - C: ≤50 mA at ±110 V DC

Between B or C - A: ≤50 mA at ±55 V DC

Between each line - G: ≤10 mA at ±140 V DC

■ 300 BPS TYPE

•Modem (model: MOD2-K)

Telephone circuit: NTT leased circuit, 3.4 kHz

Sending level: -7 to -15 dBm

Receiving level: -40 dBm

Transmission rate: 300 bps (half-duplex)

Modulation: conform to ITU-T V.21

No. of circuits: 1

Approval No.: D01-0730JP

•Lightning Arrester (model: MDP-FT)

Discharge voltage

Between lines: ±1.2 V min.

Line to ground: ±500 V max.

Maximum surge voltage

Between lines: ±15 V max.

Line to ground: ±650 V max.

Response time: ≤0.1 μsec.

Discharge current capacity: 5000 A (8 / 20 msec.)

Maximum load current: 100mA

Internal series resistance: approx. 8 Ω including return

Leakage current

Between lines: ≤20 mA at ±1.2 V

Line to ground: ≤10 mA at ±140 V

Maximum line voltage: 1.2 V

INSTALLATION

Power consumption

•AC: Approx. 8 VA for 50bps, approx. 6 VA for 300bps

Grounding: ≤100 Ω required for 50 bps type

Operating temperature: -5 to + 50°C (23 to 122°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: Surface

Weight: 1.5 kg (3.3 lb)

PERFORMANCE

Permissible power failure duration: ≤ 20 ms

Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength: 1500 V AC @1 minute

(telephone circuit to I/O to power)

1500 V AC @1 minute (circuit to ground)

TRANSMISSION TIME

■ Simple Transmission Time

The simple transmission time means the time between the start of data sending from the master station and the end of data sending from the local station. It means 1 cycle of data transmission between the master station and the local station. It does not mean the time required for an input signal to be output.

■ How to Calculate the Simple Transmission Time

•Transmission Rate 50 bps

Simple Transmission Time (sec.)

= (No. of data bytes from master station + No. of data bytes from local station) × 0.22 + 0.5 × 2

•Transmission Rate 300 bps

Simple Transmission Time (sec.)

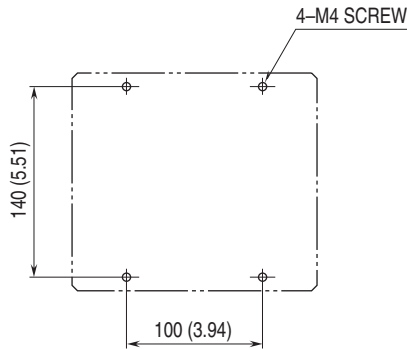
= (No. of data bytes from master station + No. of data bytes from local station) × 0.037 + 0.2 × 2

■ Effective Transmission Time

The effective transmission time means the time required for a change of an input signal to affect its output signal. It

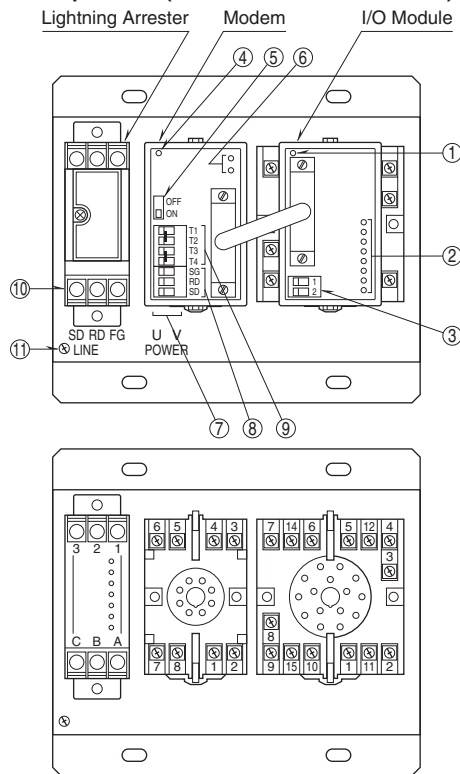
varies between the minimum and maximum values,
 depending upon the timing of input change.
 Minimum Time = Simple Transmission Time
 Maximum Time = Simple Transmission Time × 2

MOUNTING REQUIREMENTS unit: mm (inch)



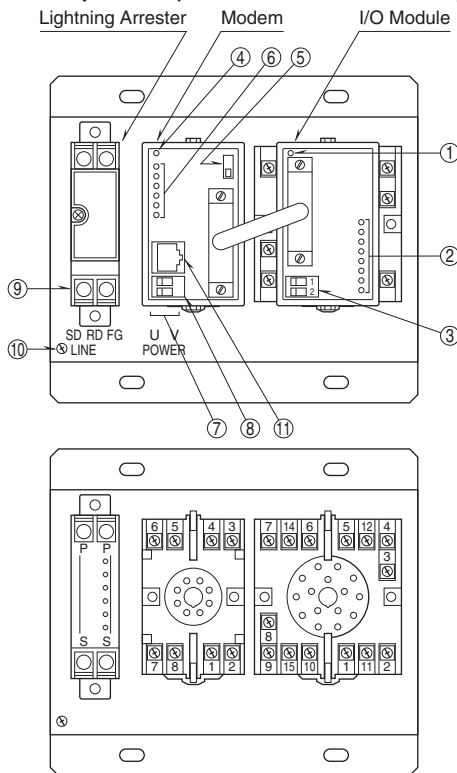
FRONT PANEL CONFIGURATION & TERMINAL ASSIGNMENT

■ 50 bps TYPE (Transmission Rate Code: 1)



No.	DESCRIPTION	EXPLANATION
1	RUN LED	Red LED ON at normal status; OFF at anomaly detected by selfdiagnosis; blinks when there is anomaly in telephone circuit.
2	Contact I/O Monitor LEDs	Red LED ON with contact ON; provided only for contact I/O types
3	RUN Contact Output Terminals	Relay opens when an anomaly is detected.
4	Power Indicator LED	Red LED ON at normal status; OFF when the voltage level drops.
5	Circuit Test SW	Normally OFF; turned ON when testing only.
6	Circuit Status Indicator LEDs	Red LED; SD blinks during sending; RD blinks during receiving.
7	Power Terminals	Refer to the Terminal Connection.
8	SG, RD, SD Terminals	Connected with the lightning arrester. (factory connected)
9	Circuit Test Terminals (T1 – T2, T3 – T4)	Normally shorted with a jumper. Circuit connection is broken when it is removed (opened).
10	Circuit Connection Terminals	Refer to the Terminal Connection.
11	Grounding Terminal	Refer to the Terminal Connection.

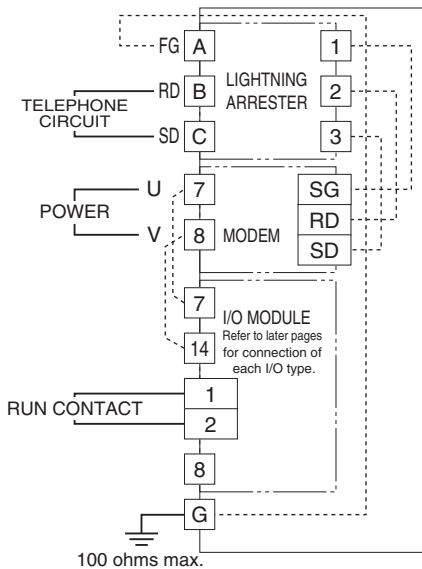
■ 300 bps TYPE (Transmission Rate Code: 2)



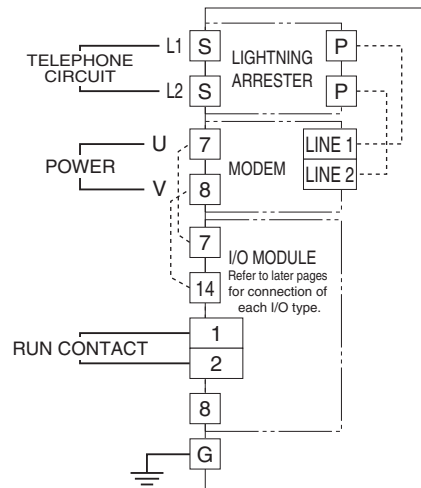
No.	DESCRIPTION	EXPLANATION
1	RUN LED	Red LED ON at normal status; OFF at anomaly detected by selfdiagnosis; blinks when there is anomaly in telephone circuit.
2	Contact I/O Monitor LEDs	Red LED ON with contact ON; provided only for contact I/O types
3	RUN Contact Output Terminals	Relay opens when an anomaly is detected.
4	Power Indicator LED	Red LED ON at normal status; OFF when the voltage level drops.
5	Master/Local SW	Designating the Master and Local Stations (factory set)
6	Circuit Status Indicator LEDs	Red LED; turn ON according to the status of telephone circuit
7	Power Terminals	Refer to the Terminal Connection.
8	Modem Circuit Terminals	Connected with the lightning arrester. (factory connected)
9	Circuit Connection Terminals	Refer to the Terminal Connection.
10	Grounding Terminal	Refer to the Terminal Connection.
11	Modem Circuit Connector	Not used.

CONNECTION DIAGRAM

■ 50 bps TYPE (Transmission Rate Code: 1)



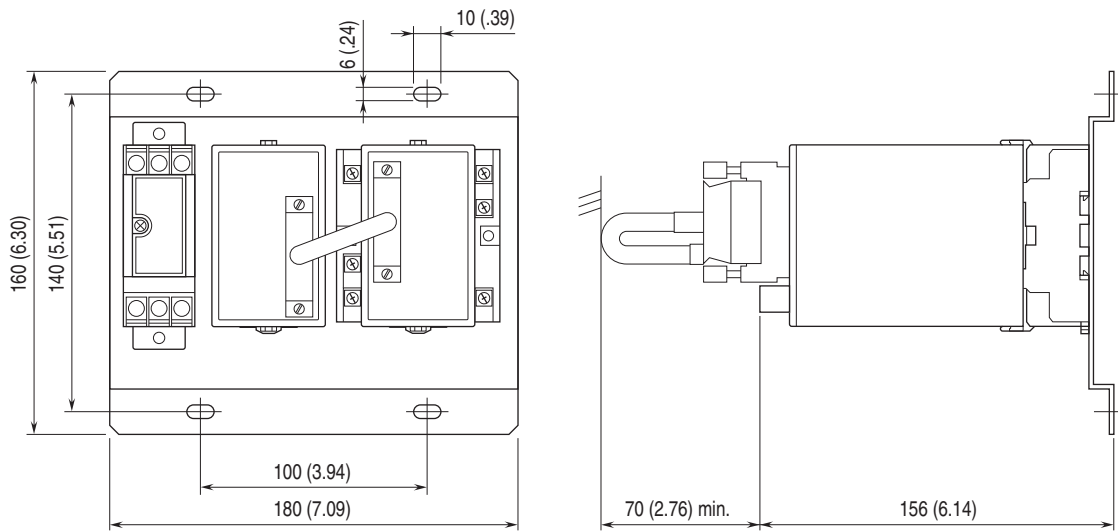
■ 300 bps TYPE (Transmission Rate Code: 2)



Remark 1 : Broken line connections are already done at factory. Do not remove those cables already wired when wiring to power supply (Terminals 7 – 8 of the Modem) and ground terminals (G).

Remark 2 : Be sure to ground (100 ohms or less) for 50 bps type which employs the earth-return method.

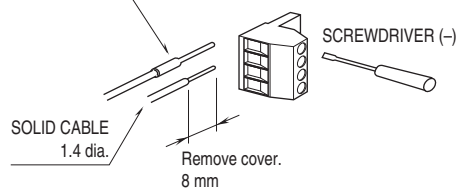
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



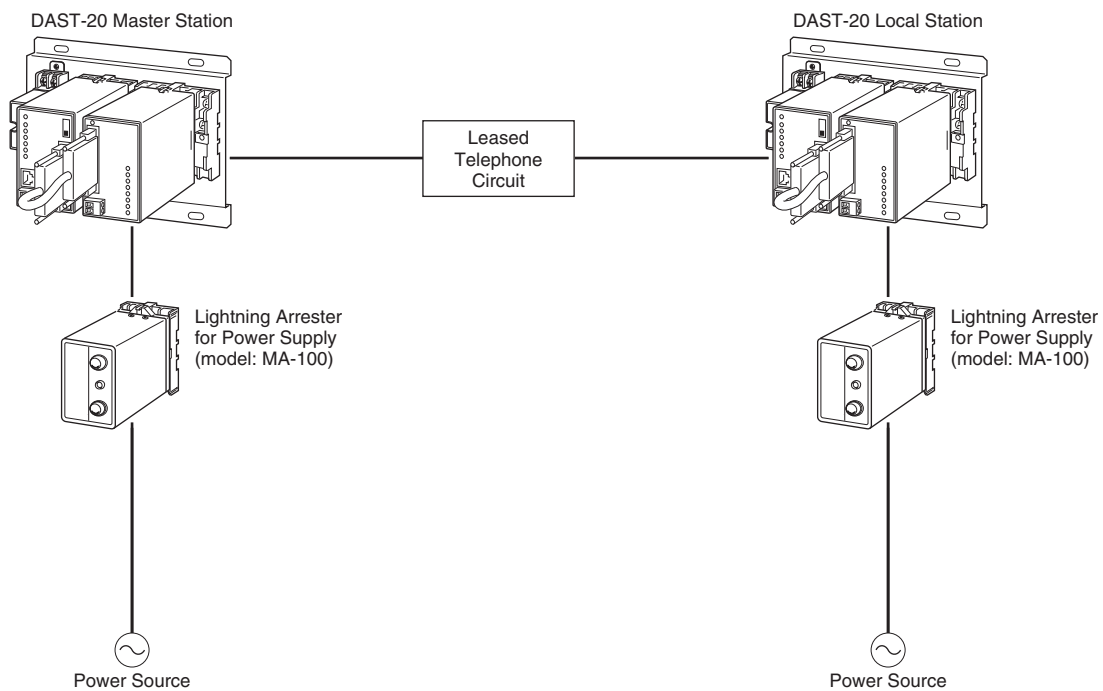
Shape of the lightning arrester changes according to model No.

• Wiring Procedure of DIN Terminals

PIN TERMINAL
PHOENIX AI1.5-8BK RECOMMENDED
MULTI-STRAND CABLE: 1.25 mm²



SYSTEM DESCRIPTIONS



MASTER, CONTACT OUTPUT

MODEL: DAST-20-[1]MC81-K

ORDERING INFORMATION

- Code number: DAST-20-[1]MC81-K
- Specify a code from below for [1].
(e.g. DAST-20-1MC81-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

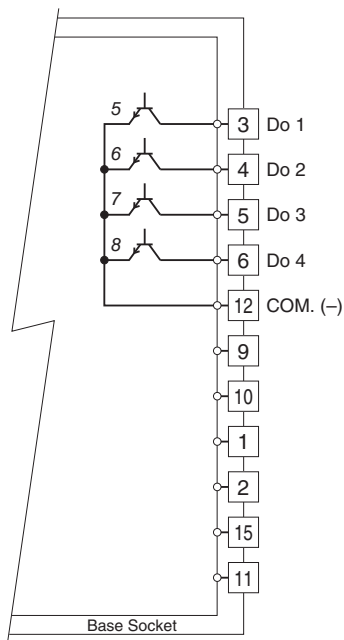
OUTPUT SPECIFICATIONS

- OPEN COLLECTOR OUTPUT
- Capacity: 4 points
- Commons: per 4 points
- Rating: 30 V DC @100 mA

PERFORMANCE

Number of data bytes: 10

OUTPUT TERMINAL CONNECTION



Italic numbers indicate LED No. on the front panel.

LOCAL, CONTACT INPUT

MODEL: DAST-20-[1]SA41-K

ORDERING INFORMATION

- Code number: DAST-20-[1]SA41-K
- Specify a code from below for [1].
(e.g. DAST-20-1SA41-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

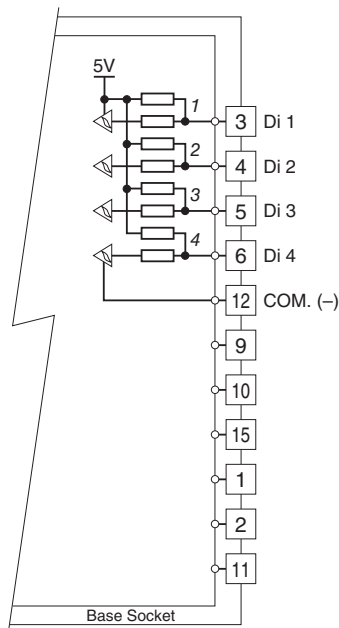
■ DRY CONTACT INPUT

- Capacity: 4 points
- Commons: per 4 points
- Contact detecting voltage: 5 V DC
- ON current/resistance: $\geq 1 \text{ mA} / \leq 200 \Omega$
- OFF current/resistance: $\leq 50 \mu\text{A} / \geq 100 \text{ k}\Omega$

PERFORMANCE

Number of data bytes: 14

INPUT TERMINAL CONNECTION



Italic numbers indicate LED No. on the front panel.

MASTER, CONTACT I/O

I/O TERMINAL CONNECTION

MODEL: DAST-20-[1]ME5-K

ORDERING INFORMATION

- Code number: DAST-20-[1]ME5-K
- Specify a code from below for [1].
(e.g. DAST-20-1ME5-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ DRY CONTACT INPUT

- Capacity: 4 points
- Commons: per 4 points
- Contact detecting voltage: 5 V DC
- ON current/resistance: $\geq 1 \text{ mA} / \leq 200 \Omega$
- OFF current/resistance: $\leq 50 \mu\text{A} / \geq 100 \text{ k}\Omega$

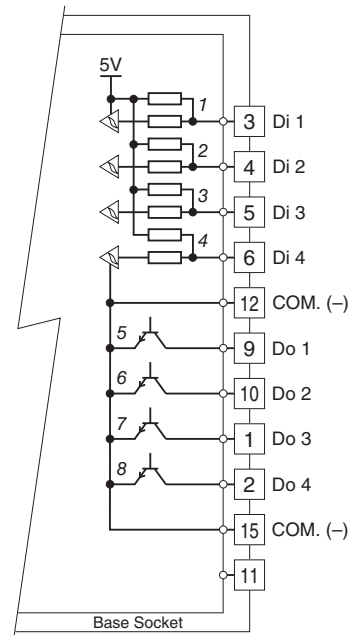
OUTPUT SPECIFICATIONS

■ OPEN COLLECTOR OUTPUT

- Capacity: 4 points
- Commons: per 4 points
- Rating: 30 V DC @100 mA

PERFORMANCE

- Number of data bytes: 14



Italic numbers indicate LED No. on the front panel.

LOCAL, CONTACT I/O

MODEL: DAST-20-[1]SE5-K

ORDERING INFORMATION

- Code number: DAST-20-[1]SE5-K
- Specify a code from below for [1].
(e.g. DAST-20-1SE5-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ DRY CONTACT INPUT

- Capacity: 4 points
- Commons: per 4 points
- Contact detecting voltage: 5 V DC
- ON current/resistance: $\geq 1 \text{ mA} / \leq 200 \Omega$
- OFF current/resistance: $\leq 50 \mu\text{A} / \geq 100 \text{ k}\Omega$

OUTPUT SPECIFICATIONS

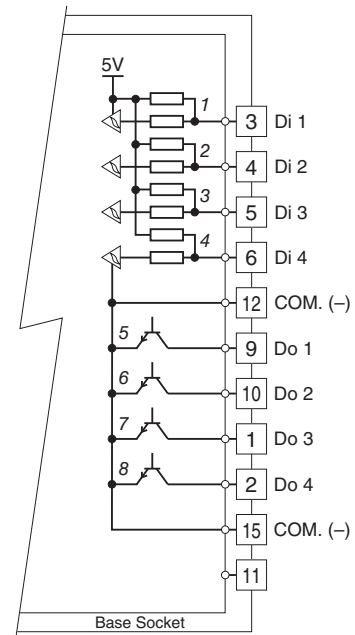
■ OPEN COLLECTOR OUTPUT

- Capacity: 4 points
- Commons: per 4 points
- Rating: 30 V DC @100 mA

PERFORMANCE

Number of data bytes: 14

I/O TERMINAL CONNECTION



Italic numbers indicate LED No. on the front panel.

MASTER, ANALOG OUTPUTS

MODEL: DAST-20-[1]MM4-K

ORDERING INFORMATION

• Code number: DAST-20-[1]MM4-K
 Specify a code from below for [1].
 (e.g. DAST-20-1MM4-K)

[1] TRANSMISSION RATE

1: 50 bps
 2: 300 bps

POWER INPUT

AC Power
 K: 85 - 132 V AC

OUTPUT SPECIFICATIONS

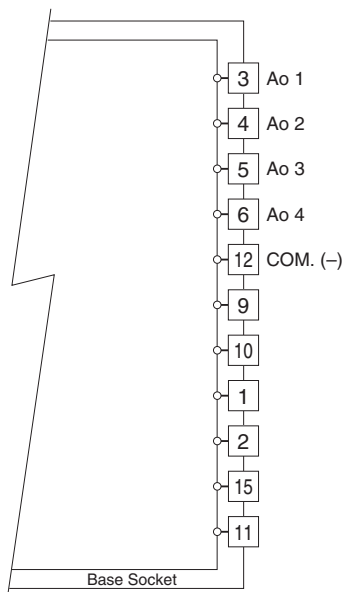
■ VOLTAGE OUTPUT

Capacity: 4 points
 Commons: per 4 points
 Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
 Load resistance: 10 kΩ min.

PERFORMANCE

Accuracy: $\pm 0.2\%$
 Number of data bytes: 10
 Temp. coefficient: $\pm 0.02\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$)

OUTPUT TERMINAL CONNECTION



LOCAL, ANALOG INPUTS

MODEL: DAST-20-[1]SG4-K

ORDERING INFORMATION

- Code number: DAST-20-[1]SG4-K
- Specify a code from below for [1].
(e.g. DAST-20-1SG4-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

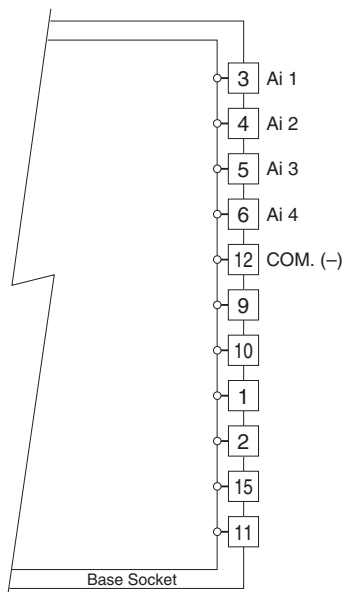
■ VOLTAGE INPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Input resistance: 1 M Ω min. (500 k Ω min.)

PERFORMANCE

- Accuracy: ± 0.2 %
- Number of data bytes: 28
- Temp. coefficient: ± 0.02 %/ $^{\circ}$ C (± 0.01 %/ $^{\circ}$ F)

INPUT TERMINAL CONNECTION



MASTER, ANALOG I/O

I/O TERMINAL CONNECTION

MODEL: DAST-20-[1]MR3-K

ORDERING INFORMATION

- Code number: DAST-20-[1]MR3-K
- Specify a code from below for [1].
(e.g. DAST-20-1MR3-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ VOLTAGE INPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Input resistance: 1 M Ω min. (500 k Ω min.)

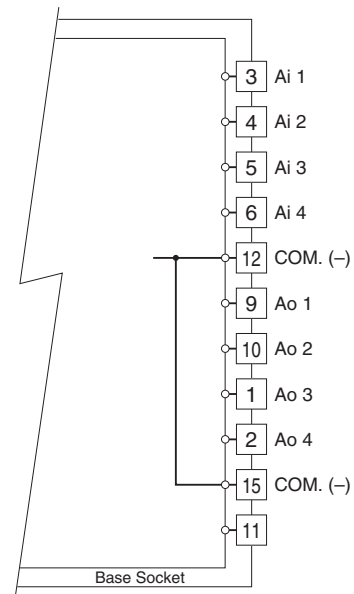
OUTPUT SPECIFICATIONS

■ VOLTAGE OUTPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Load resistance: 10 k Ω min.

PERFORMANCE

- Accuracy: ± 0.2 %
- Number of data bytes: 28
- Temp. coefficient: ± 0.02 %/ $^{\circ}$ C (± 0.01 %/ $^{\circ}$ F)



LOCAL, ANALOG I/O

MODEL: DAST-20-[1]SR3-K

ORDERING INFORMATION

- Code number: DAST-20-[1]SR3-K
- Specify a code from below for [1].
(e.g. DAST-20-1SR3-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ VOLTAGE INPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Input resistance: 1 M Ω min. (500 k Ω min.)

OUTPUT SPECIFICATIONS

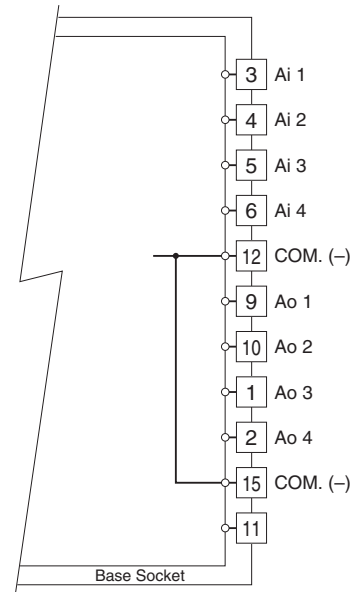
■ VOLTAGE OUTPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Load resistance: 10 k Ω min.

PERFORMANCE

- Accuracy: ± 0.2 %
- Number of data bytes: 28
- Temp. coefficient: ± 0.02 %/ $^{\circ}$ C (± 0.01 %/ $^{\circ}$ F)

I/O TERMINAL CONNECTION



MASTER, CONTACT & ANALOG OUTPUTS

OUTPUT TERMINAL CONNECTION

MODEL: DAST-20-[1]MS6-K

ORDERING INFORMATION

- Code number: DAST-20-[1]MS6-K
- Specify a code from below for [1].
(e.g. DAST-20-1MS6-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

OUTPUT SPECIFICATIONS

■ VOLTAGE OUTPUT

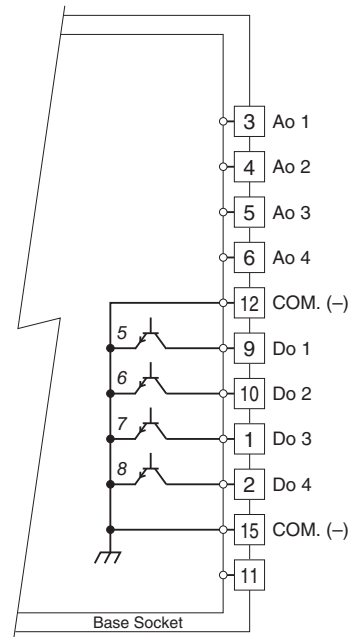
- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Load resistance: 10 kΩ min.

■ OPEN COLLECTOR OUTPUT

- Capacity: 4 points
- Commons: per 4 points
- Rating: 30 V DC @100 mA

PERFORMANCE

- Accuracy: $\pm 0.2\%$
- Number of data bytes: 10
- Temp. coefficient: $\pm 0.02\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$)



Italic numbers indicate LED No. on the front panel.

LOCAL, CONTACT & ANALOG INPUTS

MODEL: DAST-20-[1]SS5-K

ORDERING INFORMATION

- Code number: DAST-20-[1]SS5-K
- Specify a code from below for [1].
(e.g. DAST-20-1SS5-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ VOLTAGE INPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Input resistance: 1 M Ω min. (500 k Ω min.)

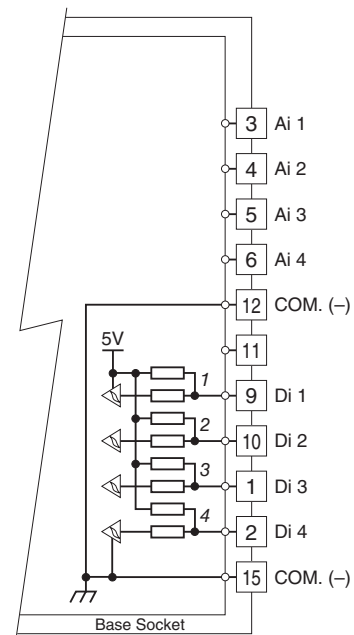
■ DRY CONTACT INPUT

- Capacity: 4 points
- Commons: per 4 points
- Contact detecting voltage: 5 V DC
- ON current/resistance: ≥ 1 mA / ≤ 200 Ω
- OFF current/resistance: ≤ 50 μ A / ≥ 100 k Ω

PERFORMANCE

- Accuracy: ± 0.2 %
- Number of data bytes: 30
- Temp. coefficient: ± 0.02 %/ $^{\circ}$ C (± 0.01 %/ $^{\circ}$ F)

INPUT TERMINAL CONNECTION



Italic numbers indicate LED No. on the front panel.

MASTER, CONTACT INPUTS & ANALOG OUTPUTS

OUTPUT TERMINAL CONNECTION

MODEL: DAST-20-[1]MS8-K

ORDERING INFORMATION

- Code number: DAST-20-[1]MS8-K
- Specify a code from below for [1].
(e.g. DAST-20-1MS8-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ DRY CONTACT INPUT

- Capacity: 4 points
- Commons: per 4 points
- Contact detecting voltage: 5 V DC
- ON current/resistance: $\geq 1 \text{ mA} / \leq 200 \Omega$
- OFF current/resistance: $\leq 50 \mu\text{A} / \geq 100 \text{ k}\Omega$

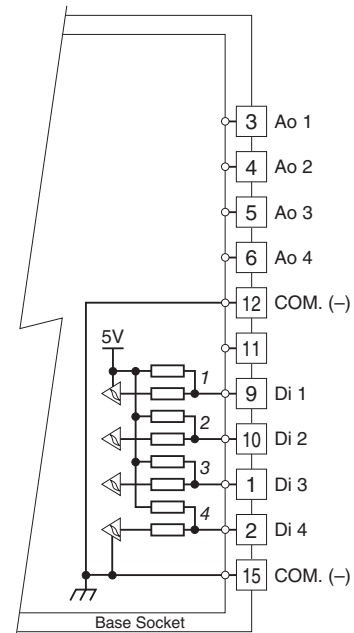
OUTPUT SPECIFICATIONS

■ VOLTAGE OUTPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Load resistance: 10 k Ω min.

PERFORMANCE

- Accuracy: $\pm 0.2 \%$
- Number of data bytes: 14
- Temp. coefficient: $\pm 0.02 \%/^{\circ}\text{C}$ ($\pm 0.01 \%/^{\circ}\text{F}$)



Italic numbers indicate LED No. on the front panel.

LOCAL, CONTACT OUTPUTS & ANALOG INPUTS

INPUT TERMINAL CONNECTION

MODEL: DAST-20-[1]SS7-K

ORDERING INFORMATION

- Code number: DAST-20-[1]SS7-K
- Specify a code from below for [1].
(e.g. DAST-20-1SS7-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ VOLTAGE INPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Input resistance: 1 M Ω min. (500 k Ω min.)

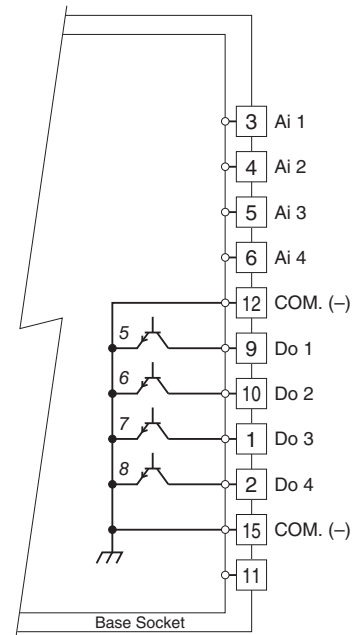
OUTPUT SPECIFICATIONS

■ OPEN COLLECTOR OUTPUT

- Capacity: 4 points
- Commons: per 4 points
- Rating: 30 V DC @100 mA

PERFORMANCE

- Accuracy: $\pm 0.2\%$
- Number of data bytes: 28
- Temp. coefficient: $\pm 0.02\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$)



Italic numbers indicate LED No. on the front panel.

MASTER, ANALOG & PULSE OUTPUTS

OUTPUT TERMINAL CONNECTION

MODEL: DAST-20-[1]MU4-K

ORDERING INFORMATION

- Code number: DAST-20-[1]MU4-K
- Specify a code from below for [1].
(e.g. DAST-20-1MU4-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

OUTPUT SPECIFICATIONS

■ VOLTAGE OUTPUT

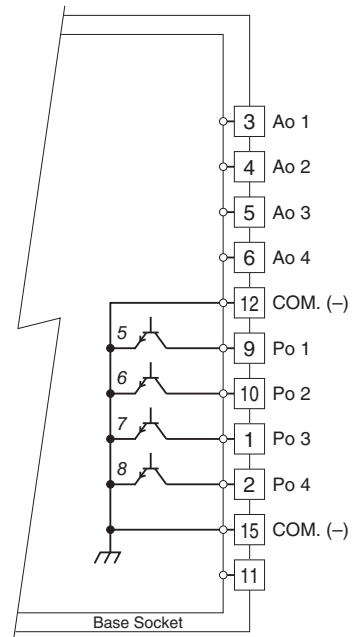
- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Load resistance: 10 kΩ min.

■ PULSE OUTPUT (open collector)

- Capacity: 4 points
- Commons: per 4 points
- Rating: 30 V DC @100 mA
- Frequency: 10 Hz max.

PERFORMANCE

- Accuracy: $\pm 0.2\%$
- Number of data bytes: 10
- Temp. coefficient: $\pm 0.02\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$)



Italic numbers indicate LED No. on the front panel.

LOCAL, ANALOG & PULSE INPUTS

MODEL: DAST-20-[1]SP4-K

ORDERING INFORMATION

- Code number: DAST-20-[1]SP4-K
- Specify a code from below for [1].
(e.g. DAST-20-1SP4-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ VOLTAGE INPUT

- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Input resistance: 1 M Ω min. (500 k Ω min.)

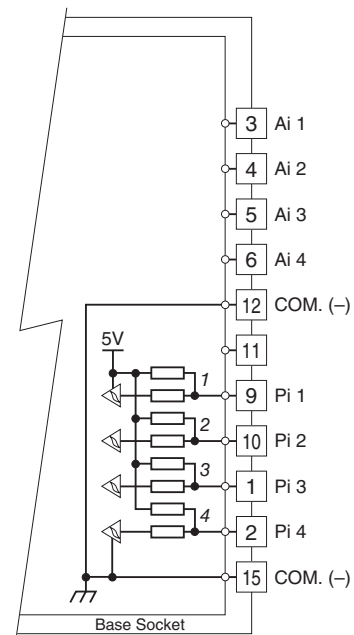
■ PULSE INPUT

- Capacity: 4 points
- Commons: per 4 points
- Contact detecting voltage: 5 V DC
- ON current/resistance: ≥ 1 mA / ≤ 200 Ω
- OFF current/resistance: ≤ 50 μ A / ≥ 100 k Ω
- Frequency: 10 Hz max.
- Pulse width time requirement: ≥ 45 msec. for ON and OFF

PERFORMANCE

- Accuracy: ± 0.2 %
- Number of data bytes: 44
- Temp. coefficient: ± 0.02 %/ $^{\circ}$ C (± 0.01 %/ $^{\circ}$ F)

INPUT TERMINAL CONNECTION



Italic numbers indicate LED No. on the front panel.

MASTER, CONTACT, ANALOG & PULSE OUTPUTS

OUTPUT TERMINAL CONNECTION

MODEL: DAST-20-[1]MS4-K

ORDERING INFORMATION

- Code number: DAST-20-[1]MS4-K
Specify a code from below for [1].
(e.g. DAST-20-1MS4-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

OUTPUT SPECIFICATIONS

■ VOLTAGE OUTPUT

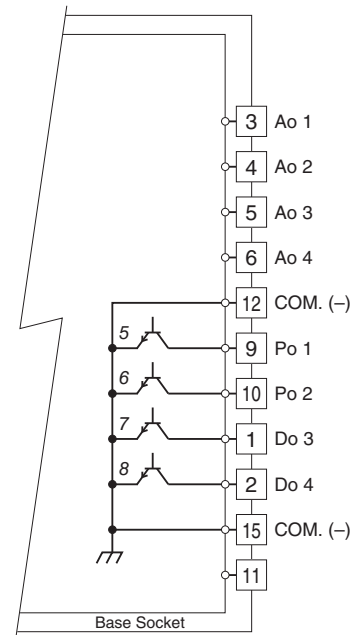
- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Load resistance: 10 kΩ min.

■ OPEN COLLECTOR & PULSE OUTPUT

- Capacity: 2 points each
- Commons: per 4 points
- Rating: 30 V DC @100 mA
- Pulse output frequency: 10 Hz max.

PERFORMANCE

- Accuracy: $\pm 0.2\%$
- Number of data bytes: 28
- Temp. coefficient: $\pm 0.02\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$)



Italic numbers indicate LED No. on the front panel.

LOCAL, CONTACT, ANALOG & PULSE INPUTS

INPUT TERMINAL CONNECTION

MODEL: DAST-20-[1]SS3-K

ORDERING INFORMATION

- Code number: DAST-20-[1]SS3-K
- Specify a code from below for [1].
(e.g. DAST-20-1SS3-K)

[1] TRANSMISSION RATE

- 1: 50 bps
- 2: 300 bps

POWER INPUT

- AC Power
- K: 85 - 132 V AC

INPUT SPECIFICATIONS

■ VOLTAGE INPUT

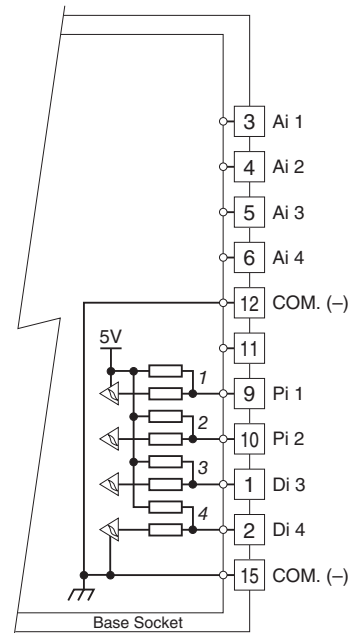
- Capacity: 4 points
- Commons: per 4 points
- Range: 1 - 5 V DC (operational range 0.5 - 5.5 V)
- Input resistance: 1 M Ω min. (500 k Ω min.)

■ DRY CONTACT & PULSE INPUT

- Capacity: 2 points each
- Commons: per 4 points
- Contact detecting voltage: 5 V DC
- ON current/resistance: ≥ 1 mA / ≤ 200 Ω
- OFF current/resistance: ≤ 50 μ A / ≥ 100 k Ω
- Pulse output frequency: 10 Hz max., pulse width time requirement 45 msec. min. for ON and OFF

PERFORMANCE

- Accuracy: ± 0.2 %
- Number of data bytes: 38
- Temp. coefficient: ± 0.02 %/ $^{\circ}$ C (± 0.01 %/ $^{\circ}$ F)



Italic numbers indicate LED No. on the front panel.



Specifications are subject to change without notice.