

TRANSMITTAL OF MITSUBISHI HIGH SPEED DIESEL ENGINE DOCUMENT

ORDERED BY	CUSTOMER
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	PART NAME	PART No.	FOR APPR.		FOR APPR.		FOR APPR.						ENGINE TYPE
			N	D	N	D	N	D	N	D	N	D	
													S4K-DT65SAG
1	S4K-DT65SAG SPEC.	SPC-S4K-T-250	P	A	P	B	P	C					A: First offer B: Update of specific fuel consumption value C: Addition of China Emission Regulation Label (Export Only Label)
2	S4K-DT65SAG ENG ASSY	34200-01740	P	A	P	B							
3	S4K-DT65SAG ENG ASSY	34200-01741					P	C					
4	ACCESSORIES (WITH ENGINE)		P	A	P	B	P	C					
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27													B
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29													
30													A
31													
32													
33													DATE
34													APPROVED
35													CHECKED BY
													CC
													ORDER

N: NUMBER, D: DATE
P: PDF

MITSUBISHI HEAVY INDUSTRIES, LTD.

SPECIFICATIONS

Used for 60kVA generator

MITSUBISHI HIGH SPEED DIESEL ENGINE
MODEL MITSUBISHI S4K-DT65SAG △

(For GENERATOR OEM, 1500rpm)

APPLICATION
FOR APPROVAL



PLEASE RETURN AFTER APPROVAL

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APPROVED		REMARKS		
DATE・SIGNATURE				
<p>DATE Jun. 30. 2009</p> <p>MITSUBISHI HEAVY INDUSTRIES, LTD.</p>				
CHG	DATE	APPROVED	CHECKED	DRAWN
△2	Mar. 14. 2016	<i>H. Iwano</i>	<i>H. Komatsu</i>	T.Igusa
△1	Sep. 12. 2012			

P:PDF配布

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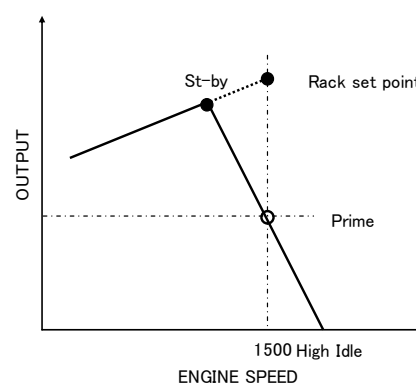
Revised record

[illegible]

1. Principal Particulars of Diesel Engine

General Specification

Standard	All items, unless otherwise specified, are in accordance with JIS and maker's standards
Model	Mitsubishi S4K-T
△ ₁	S4K-DT65SAG
△ ₁ △ ₂	MHI No. 34200-01741 (1/2-CHG0, 2/2-CHG0)
Application	Generator
△ ₂ Regulations	National Standard of the People's Republic of China GB20891-2014 Export Only engine family; G3MVXLL0425KTZ (engine type; KTZ-S4K-PA1)
Type	4 cycle water-cooled, vertical overhead valve, cylinder in line, direct injection type
Number of cylinders	4
Bore × Stroke	102mm × 130mm
Piston displacement	4.249 liters
Compression ratio	17 : 1
Rotation	Anti-Clockwise rotation as viewed from flywheel side
Firing order	1-3-4-2
Engine weight(Dry)	Approx. 350kg
Dimensions(Length)	Approx. 894mm
(Width)	Approx. 741mm
△ ₂ (Height)	Approx. 938mm
Inclination(Continuous)	Max.15°
(Temporary)	Max.15°
Fuel	ASTM diesel fuel oil No.2-D(JIS K2204 gas oil specification No.2 or 3)
Lubricating oil	API classification service CF,CF-4 or CH-4 class
Output(Without fan)	Spec.Rating Breaking in around 50hr
Rated speed	1500rpm St-by ; 59.7kW Prime ; 54.7kW
Rack set point	59.7kW/1500rpm (With Fan St-by;59kW) (With Fan Prime,54kW)
Rating tolerance	±5% of nominal
Low Idle	1000±20rpm
High Idle	1583(0/-20)rpm
△ ₂ Rating conditions(Without fan)	ISO 15550 Total barometric pressure : 100kPa Air temperature : 298K Relative humidity : 30%
Fuel consumption	Approx. 235g/kW·h at Prime output and standard air conditions(Without fan)
△ ₁	
△ ₁ Oil consumption	Approx.0.1~0.3% of fuel consumption<Reference value>@ Full load, Rated speed



Fuel injection timing	20°BTDC
Mean effective pressure	1.03MPa{ 10.5kgf/cm ² } at Prime(Without fan)
Piston speed	6.5m/s at 1500rpm

Fuel system

Fuel injection pump	In-Line type
Fuel injection nozzle	Multi-Hole type
Governor	Mechanical centrifugal type
Fuel filter	Filtering paper type
Fuel pump	Yes(Engine attached)

Lubricating system

Lubricating system	Forced lubrication by gear pump
Lubricating oil filter	Filtering paper type, full flow
Oil pressure	0.2~0.4MPa{ 2~4kgf/cm ² } at duty run 0.1MPa{ 1kgf/cm ² } min. at low idling
Oil capacity	Approx. 13.0 liters (Oil pan high level 12 liters, Oil filter etc. Approx. 1 liters, High ~ Low Approx. 2.8 liters)
Oil dipstick	Standard dipstick
Oil pressure switch	Yes
Oil pressure unit	Yes
Oil cooler	Plate type

Cooling system

Cooling system	Forced circulation of fresh water by centrifugal pump with thermostat
Engine water capacity	Approx. 6 liters
Cooling fan	580mm diameter, 7 blades, pusher
Water pump pulley	PCD 173mm
Pulley ratio	1.00 (Crankpulley : Water pump pulley = 173:173)
Fan spacer	60mm thickness
Water temp. switch	Yes
Thermo. Unit	Yes
Thermostat	Open at 71deg.C - full open at 85deg.C

Electrical system

Alternator	24V-35A
Voltage regulator	IC type (Built in alternator)
Regulator set voltage	28.5±0.5V
Alternator pulley	PCD 80mm
Starting system	Electric starting
Starter motor	24V-5kW
Air heater	22V, 95A
Engine shut off system	Electric solenoid (ETS)

Intake and Exhaust system

Air intake	Engine rear side of turbo charger
Exhaust outlet	Engine front side of turbo charger
Induction Resistance	Max 1.96kPa{200mmH ₂ O}(Initial stage)
Exhaust Back Pressure	Max 4.0kPa{408mmH ₂ O}

Turbo system

Manufacturer	Mitsubishi Heavy Industries,Ltd.
Type	TD06H

<Remarks>

	Engine color	Black(MHI standard color)
△	Flywheel	11-1/2inch
	Flywheel housing	SAE #3

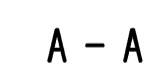
2. Engine attached items&Reference drawings

	Parts Name	Drawing No.	Q'ty	Remarks(Drawing No.)	
	1 WIRING DIAGRAM	34290-07021	—	Reference(only for)	A4
	2 SWITCH,OIL PRESSURE	MC840-219	1		A4
	3 SWITCH, THERMO	MC880-900	1		A4
△2	4				
△2	5 UNIT,THERMOMETER	MD366-869	1		A4
	6 STOP SOLENOID(ETS)	34287-01300	1	STOP SOLENOID KIT 34287-00030	A4
△1	7 STARTER	32B66-12301	1		A4
	8 AIR,HEATER	36766-11502	1		A4
	9 ALTERNATOR	34368-04100	1		A4
	10 FILTER ASSY,FUEL	34362-00012	1		A4
	11 FILTER,OIL	ME014-833	1		A4
	12 COOLING FAN	34348-00201	1		A4
	13 L-JOINT	30625-35020	1		A4

3. Accessories(Loose supply parts)

	Parts Name	Parts No.	Q'ty	Remarks(Drawing No.)	
	1 TIMER CONTROL	32B90-02400	1		A4
	2 CONNECTOR,3P	MM409-661	1		A4
	3 CONNECTOR,4P	MM409-663	1		A4
	4 CONNECTOR,2P	MH052-231	1		A4

Note:Drawing No. Subject to alteration without notice

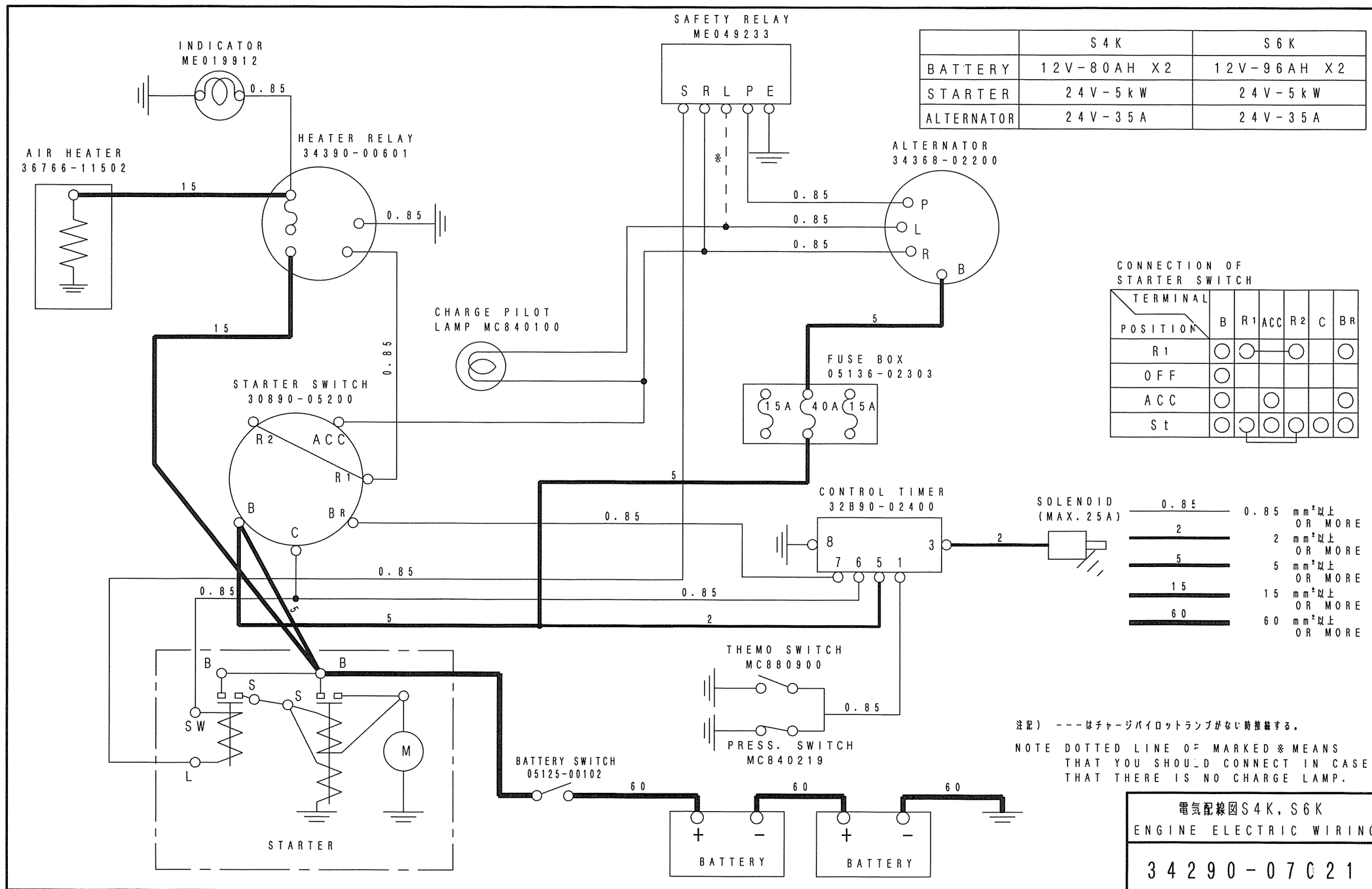


図面番号 34200-01741

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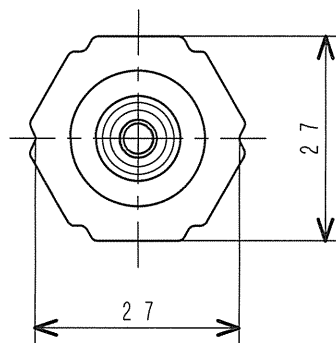
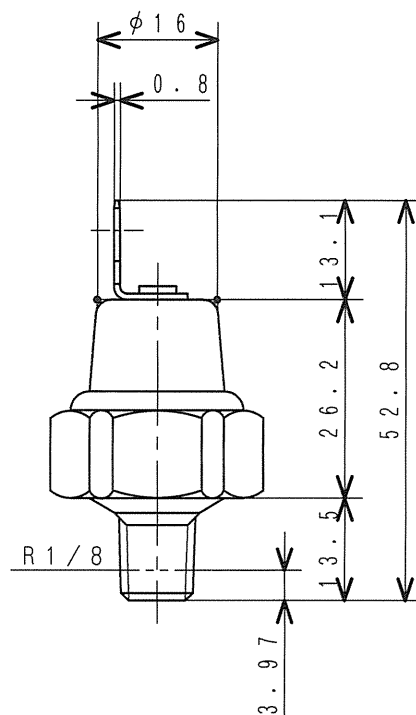
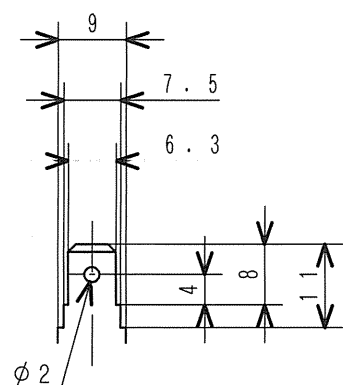
③ 新図	サイズ	① 組立図	2 鋳鍛歯車品	3 板金溶接品	4
4 旧引図	A 1		5 切削品	6 その他(購入品)	



電気配線図S4K, S6K
ENGINE ELECTRIC WIRING

34290-07021

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仕 様
SPECIFICATIONS

作 動 圧 力 OPERATING PRESS.	49 kPa {0.5 kgf/cm ² }
作 動 電 圧 OPERATING VOLT.	12 V - 5 W 24 V - 5 W

オイルプレッシャスイッチ

SWITCH, OIL PRESSURE

MC840-219

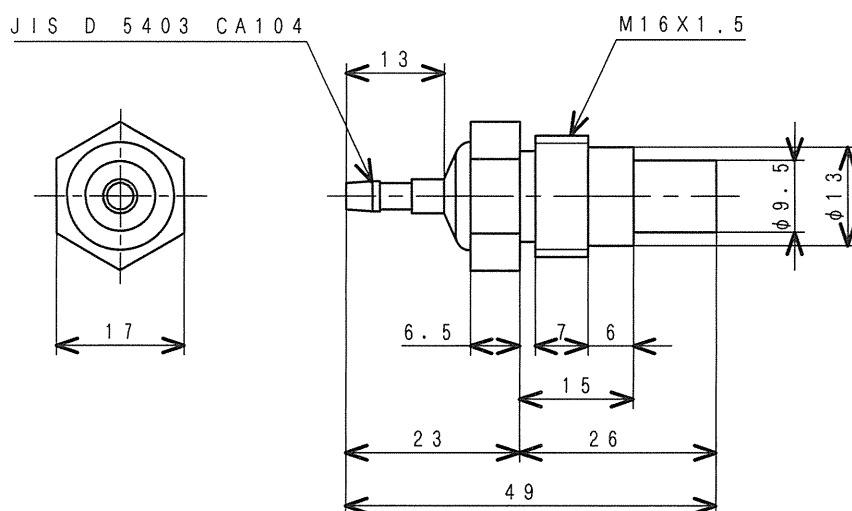
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定 格 負 荷 RATED LOADED	1 A 以下 MAX.	0.5 A 以下 MAX.
定 格 電 圧 RATED VOLT.	12 V	24 V

MC 880 - 900

M H I C O N F I D E N T I A L

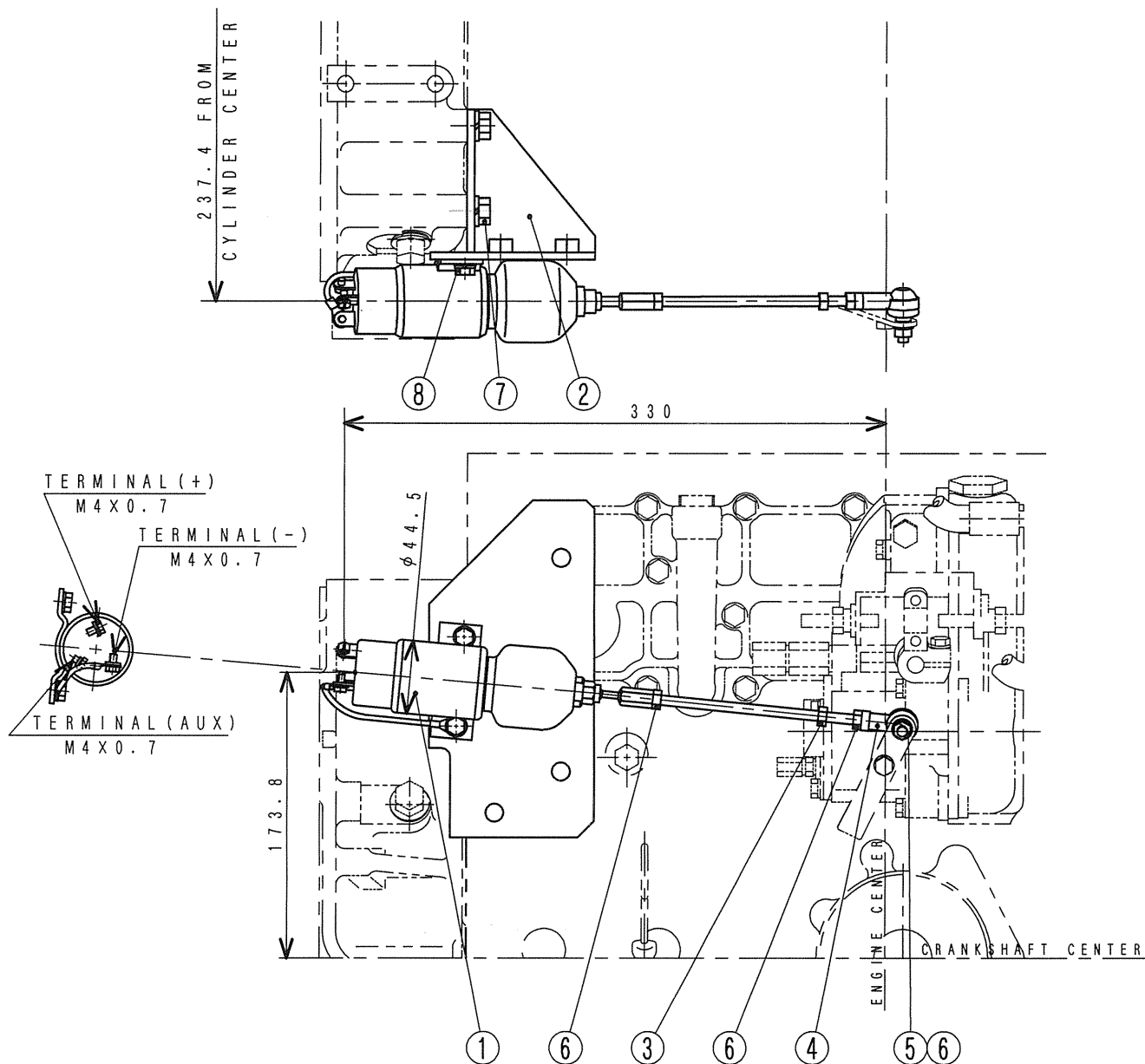


温度 (℃) TEMPERATURE	50	67	70	100	102	110	135
抵抗 (Ω) RESISTANCE	80	44.6	40.9	17.6	16.5	12.8	7

サーモメータユニット
UNIT, THERMOMETER

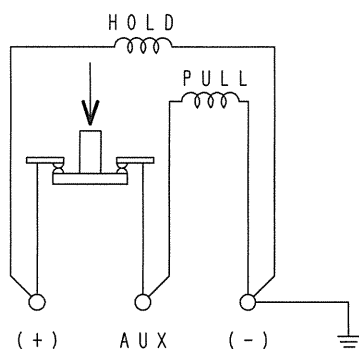
MD366-869

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仕様 (20℃にて)
SPECIFICATIONS (AT 20℃)

定格電圧 RATED VOLT.	DC 24 V	
	プルインコイル PULL IN COIL	ホールディングコイル HOLD IN COIL
定格電流 RATED CURRENT	24.6 A	0.5 A
引張力 TENSILE FORCE	89 N {9 kgf}	180 N {18 kgf}



配線図
WIRING DIAGRAM

8	F1825-06012	BOLT W/ASSY	2
7	F2005-10020	BOLT W/ASSY	3
6	F2300-06000	NUT	3
5	F2515-06000	WASHER, SPRING	1
4	32563-06100	L-JOINT	1
3	34287-02703	ROD, SOLENOID	1
2	34287-12801	BRACKET, SOLENOID	1
1	34287-01300	SOLENOID	1
SYM	PART No.	PART NAME	QTY

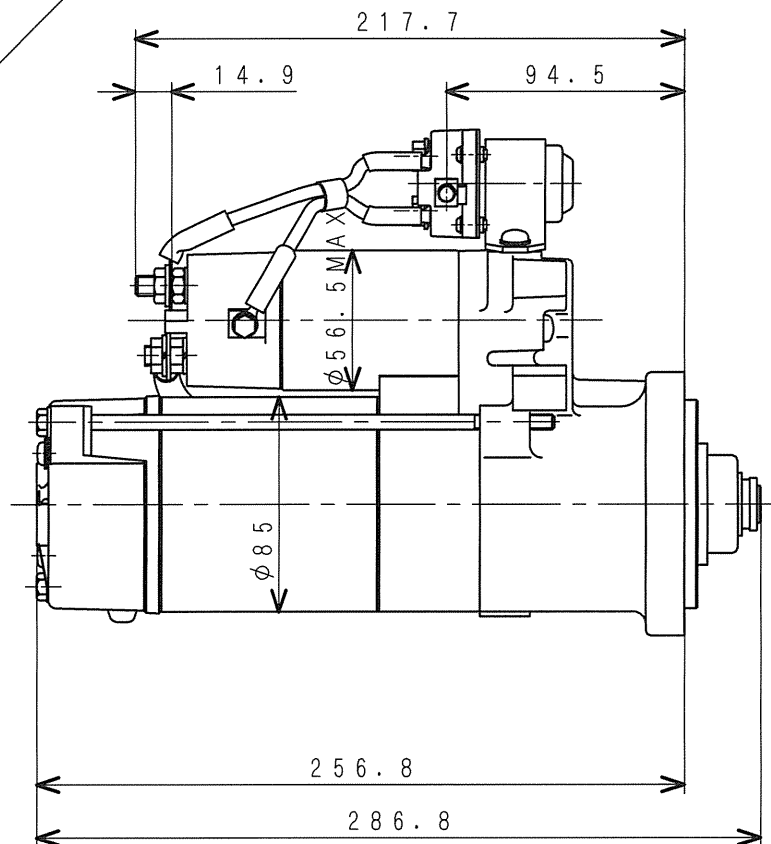
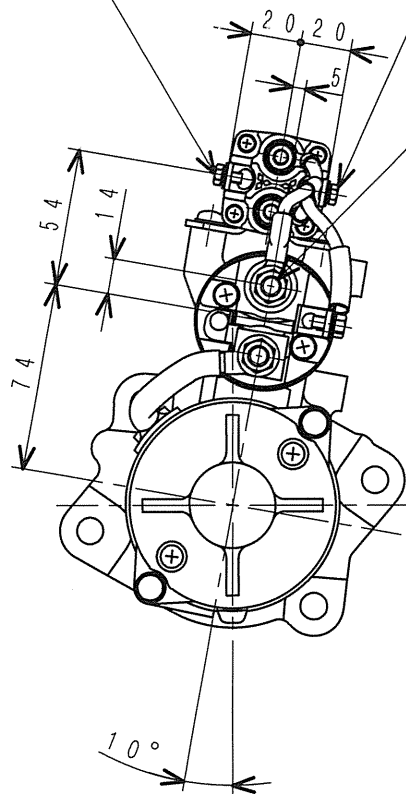
ストップ ソレノイド キット

STOP SOLENOID KIT (S4K)

34287-00030

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B - TERMINAL
M8X1.25
(TIGHTENING
TORQUE 10⁺²₀ N·m)

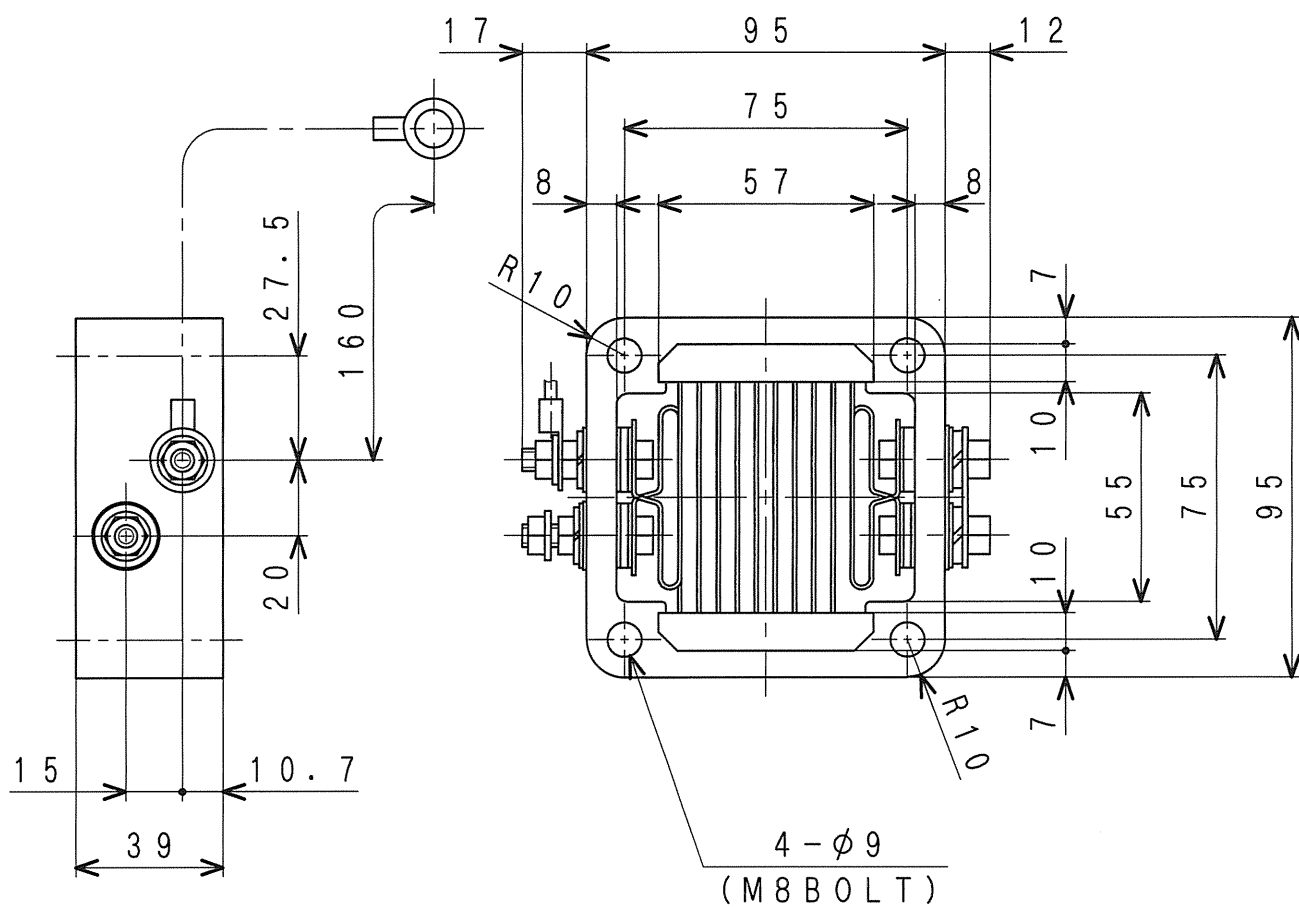


MODEL	PART NO.	RATED OUTPUT OF STARTER	BATTERY (REFERENCE)
S 4 K, S 6 K	3 2 B 6 6 - 1 2 3 0 1	2 4 V - 5 k W	S 4 K : 8 0 A H X 2
			S 6 K : 9 6 A H X 2

スターター
STARTER (24V-5kW)

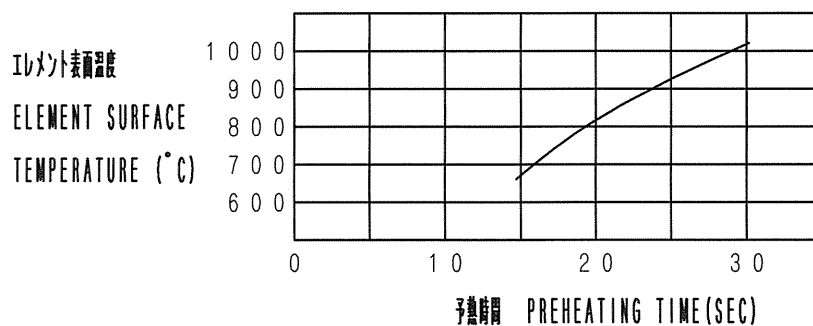
3 2 B 6 6 - 1 2 3 0 1

M H I C O N F I D E N T I A L



仕様
SPECIFICATIONS

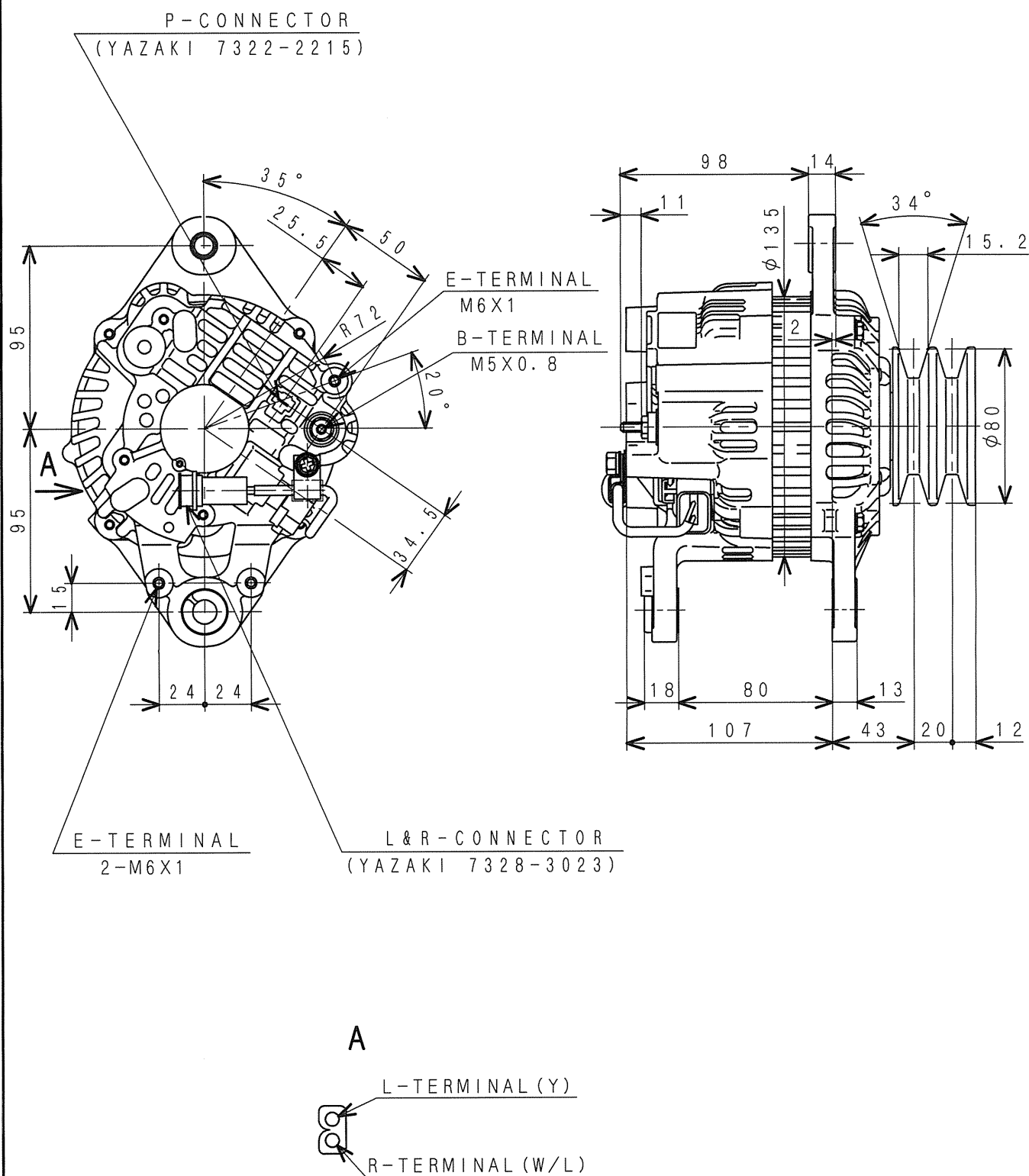
容量 CAPACITY	2.1 kW
定格電圧 RATED CURRENT	95 A ± 10% (AT 22 V)



エア ヒータ アッシー
AIR HEATER ASSY

36766-11502

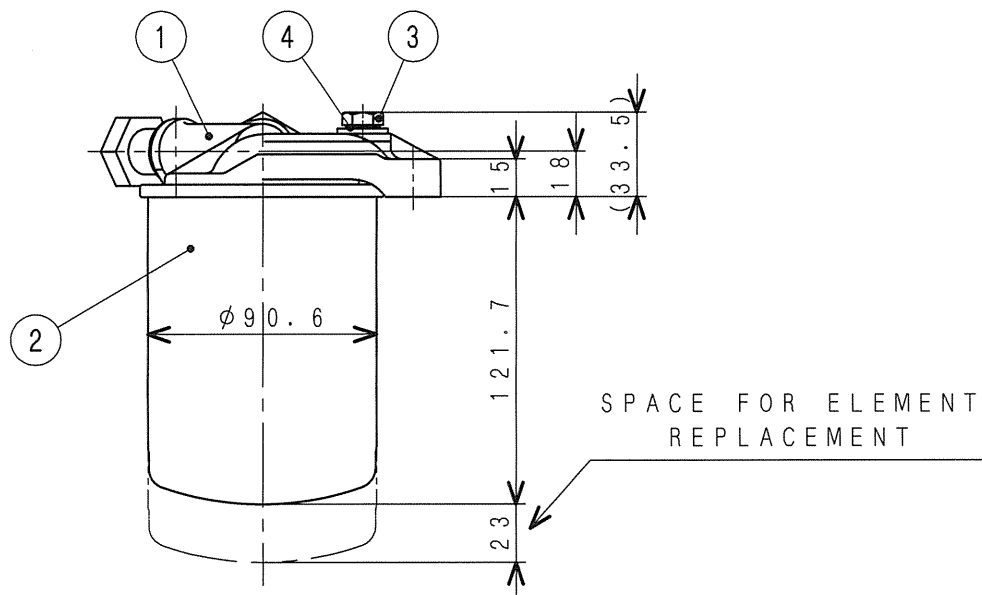
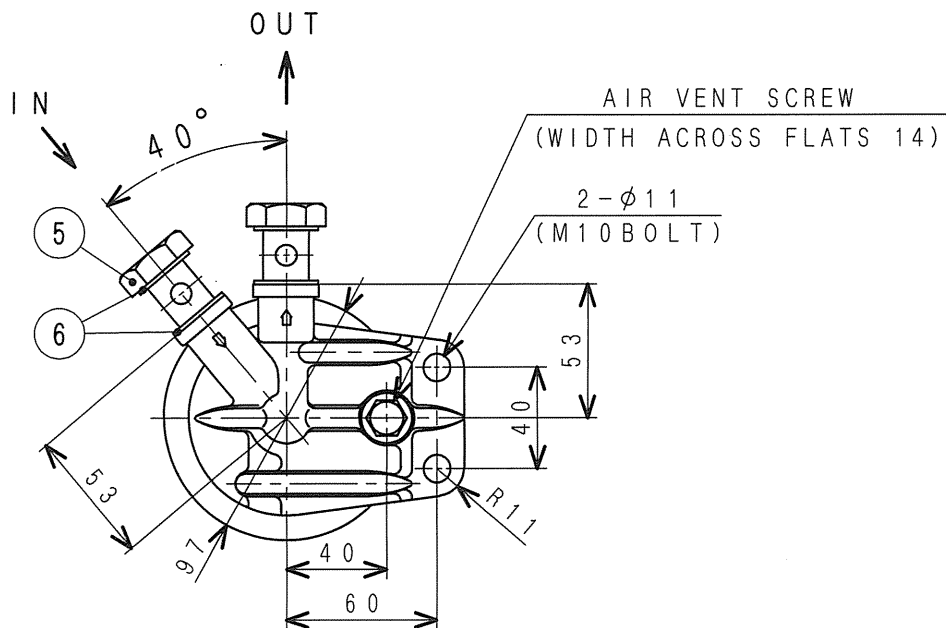
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オルタネータ
ALTERNATOR (24V-35A)

34368-04100

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2. FILTER TIGHTENING TORQUE: $13.7 \pm 2.0 \text{ N} \cdot \text{m}$ $\{1.4 \pm 0.2 \text{ kgf} \cdot \text{m}\}$
 NOTE 1. THEN TIGHTEN $3/4 \sim 1$ TURN AFTER GASKET CONTACTS BASE.

2. フィルタ締付けトルク: $13.7 \pm 2.0 \text{ N} \cdot \text{m}$ $\{1.4 \pm 0.2 \text{ kgf} \cdot \text{m}\}$
 注 記 1. 取付けはシール面にガスケットが接触してから $3/4 \sim 1$ 回転締めて下さい。

仕 様
SPECIFICATIONS

ろ 過 面 積 FILTRATION AREA	3800 cm ²
定 格 流 量 RATED FLOW	3 l/min
乾 燥 重 量 WEIGHT	830 g

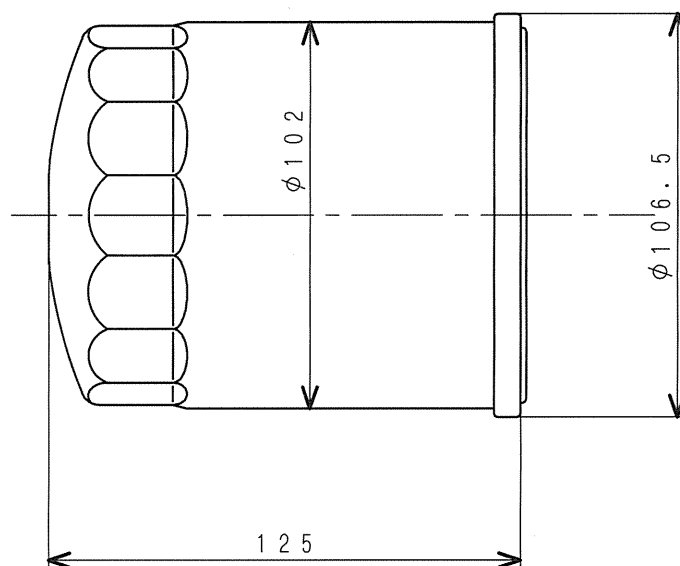
6	MH035-069	GASKET	4
5	MH037-087	BOLT, EYE	2
4	MH035-067	GASKET	1
3	ME016-894	PLUG, AIR	1
2	34362-00101	ELEMENT, FUEL	1
1	ME035-672	HEAD, FUEL FILTER	1
SYM	PART No.	PART NAME	QTY

ヒュエルフィルタアッシ

FILTER ASSY, FUEL

34362-00012

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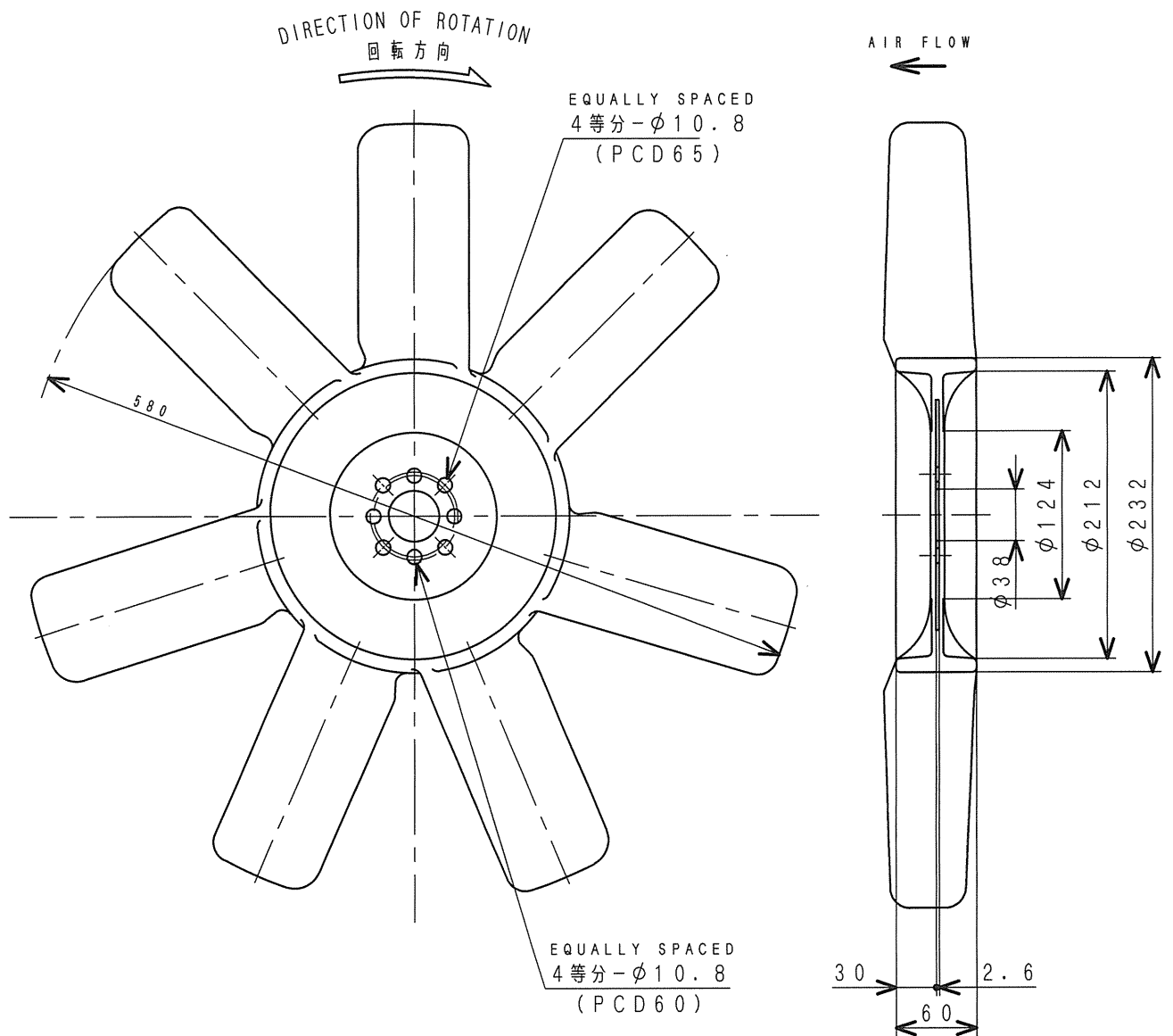
仕 様
SPECIFICATIONS

濾 過 面 積 FILTRATION AREA	0.25m ²
圧 力 損 失 (定 格 流 量 時) PRESSURE LOSS	29.4kPa {0.3kgf/cm ² } 以下
破 壊 圧 力 PRESS. AT FRACTURE	1.47MPa {15kgf/cm ² }
エレメント差圧強度 ELEMENT RESISTANCE TO PRESS. DIFFERENCE	687kPa {7kgf/cm ² }
逃し弁調整圧力 RELIEF VALVE PRESSURE	98.1±19.6kPa {1.0±0.2kgf/cm ² }

オイルフィルタ
FILTER, OIL

ME014-833

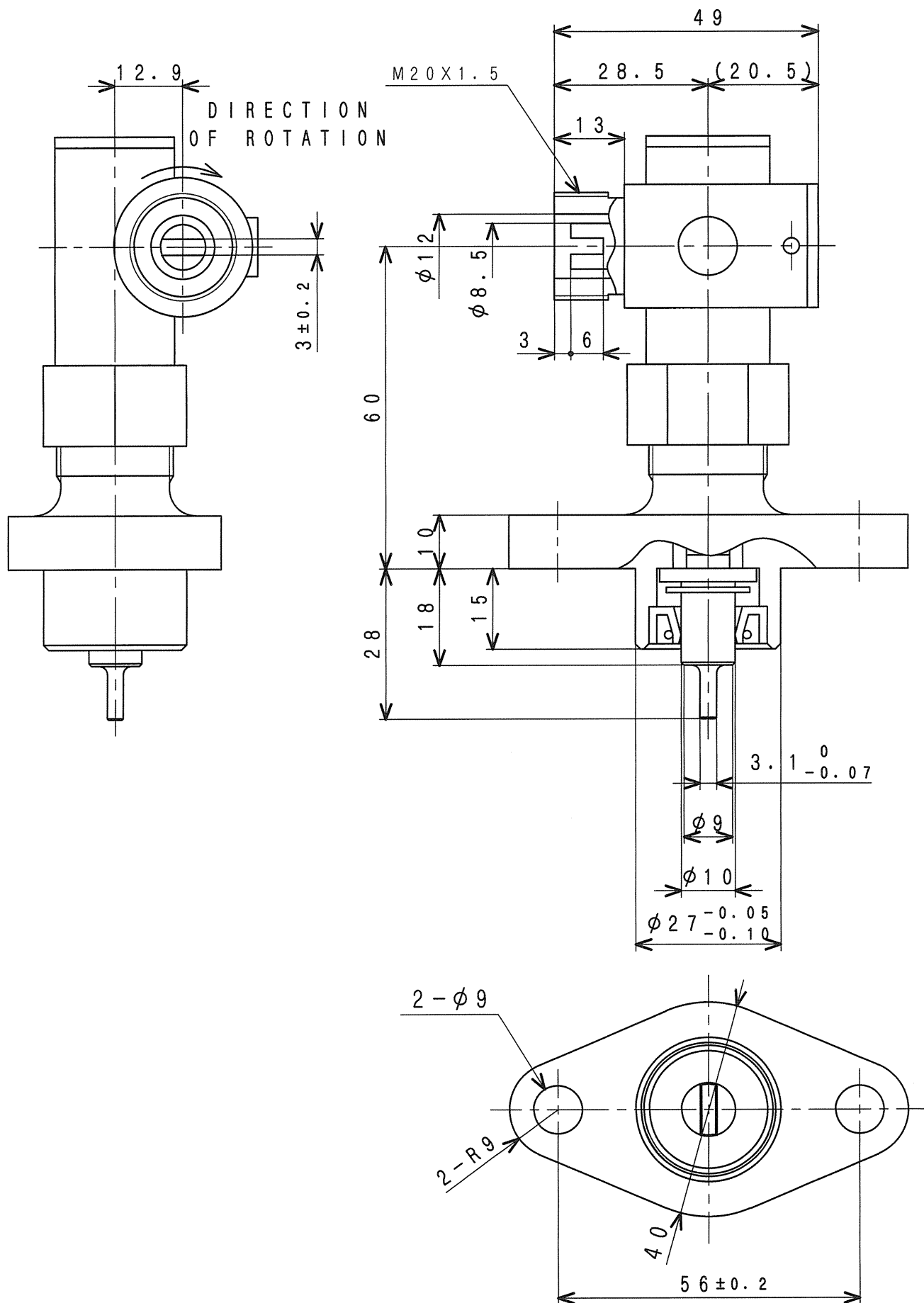
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クーリング ファン (プッシャー)
FAN, COOLING (7P-580)

34348-00201

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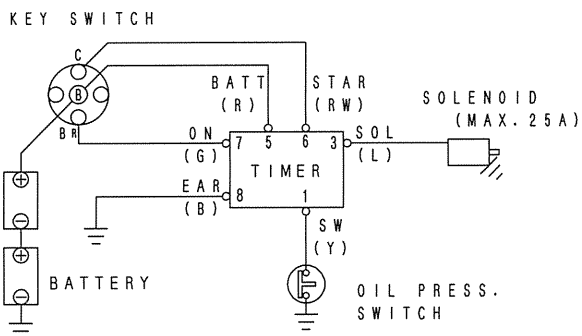
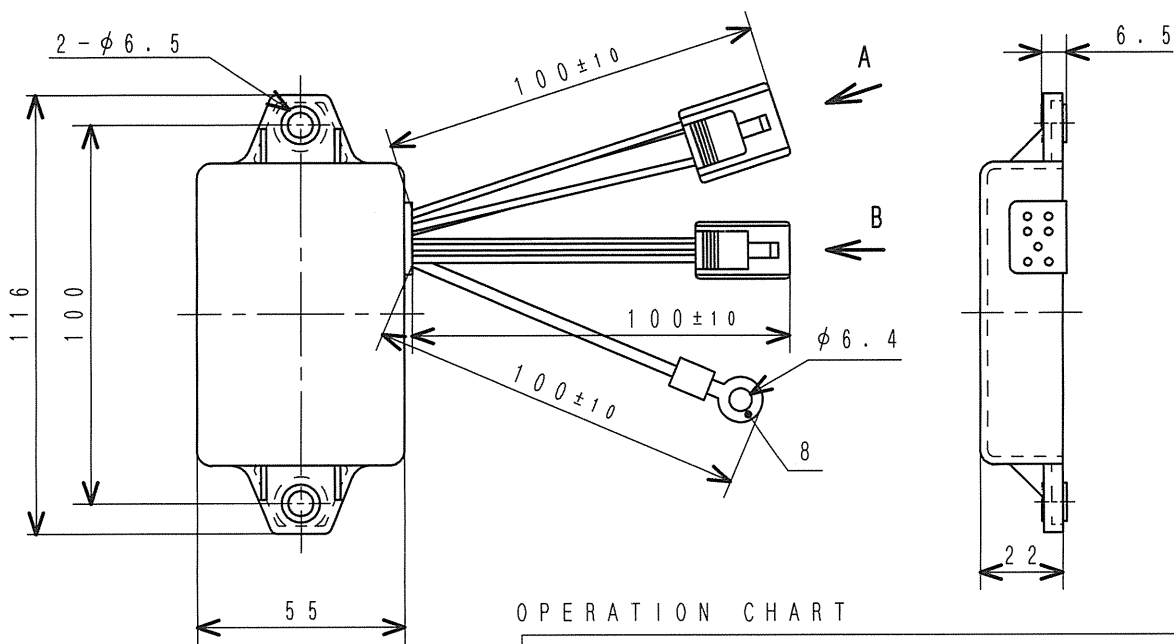
駆動軸と被駆動軸の回転比 1 : 1

ROTATION RATIO OF DRIVE & DRIVEN SHAFT IS 1 : 1

L-ジョイント
L-JOINT

30625-35020

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配線図

WIRING DIAGRAM

連続してキーON/OFF操作を繰り返さないこと。

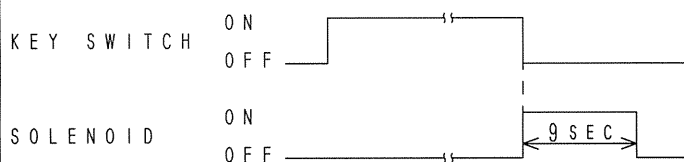
NO CONTINUOUS KEY ON/OFF OPERATION PERMITTED.

部品番号 PART No.	電源電圧(標準) VOLTAGE	許容ソレノイド電流 SOL. MAX. CURRENT	使用温度範囲 AMBIENT TEMP.
32B90-02400	24 V	25 A	-30~+80℃(-22~+176°F)

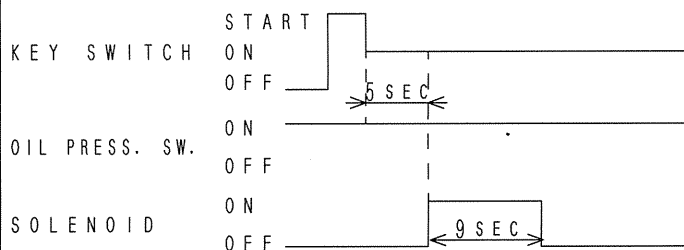
符号 SYM	線色 COLOUR	接続先 CONNECT FAR SIDE
1	YELLOW	油圧スイッチ OIL PRESS. SWITCH
2		(未使用) UNUSED
3	BLUE	ソレノイド(+) SOLENOID
4	BLUE	ソレノイド(-) SOLENOID
5	RED	バッテリー(+) BATTERY
6	RED WHITE	キースイッチ START KEY SWITCH
7	GREEN	キースイッチ ON KEY SWITCH
8	BLACK	アース EARTH

OPERATION CHART

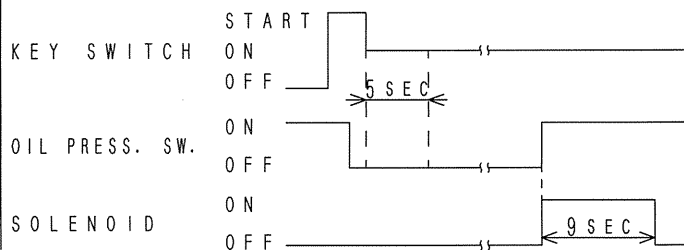
1. IN CASE THE KEY IS TURNED OFF.



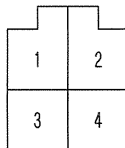
2. IN CASE OIL PRESS. SW. IS ON ALL ALONG.



3. IN CASE OIL PRESS. SW. TURN ON AT ENG RUNNING.

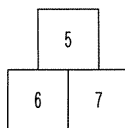


A-VIEW



4 POLES FEMALE
CONNECTOR
7323-2446 (YAZAKI)
TO MATE WITH
MM409-663 (MHI)
7122-2446 (YAZAKI)

B-VIEW



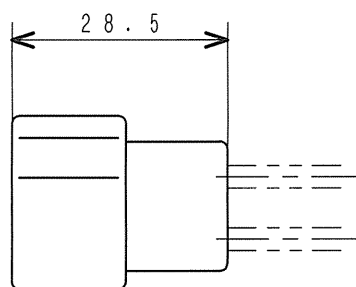
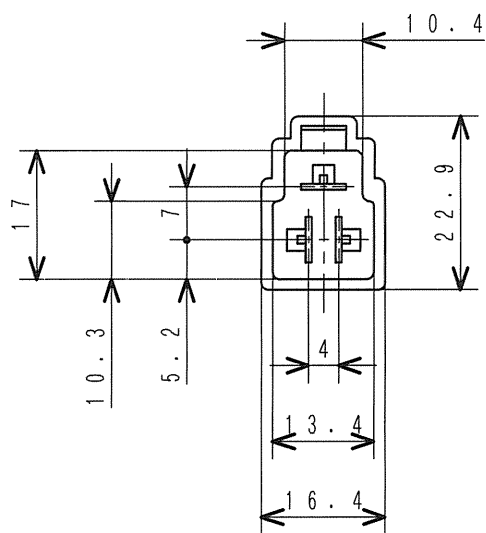
3 POLES FEMALE
CONNECTOR
7323-2237 (YAZAKI)
TO MATE WITH
MM409-661 (MHI)
7322-2237 (YAZAKI)

コントロール タイマ(エマージェンシ リレー)

TIMER, CONTROL (RELAY, EMERGENCY)

32B90-02400

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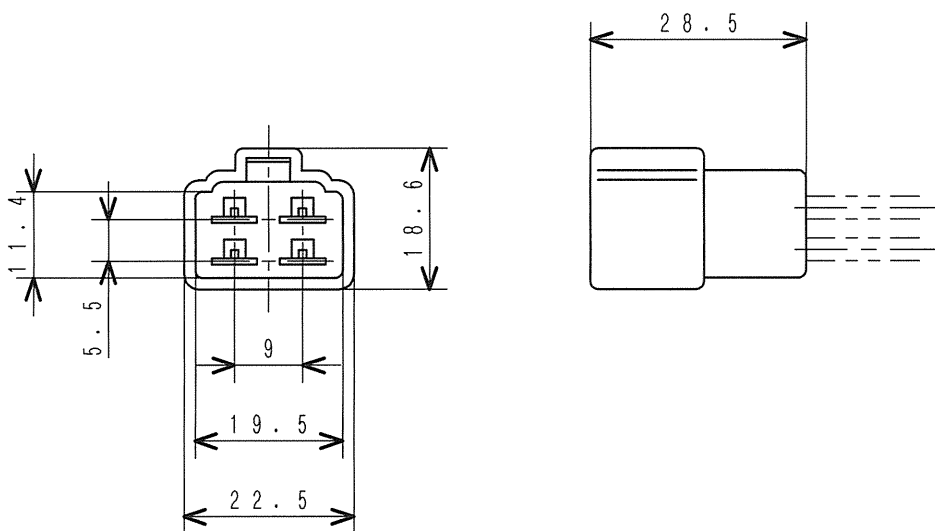


注 記 コントロールタイマ用 (YAZAKI 7322-2237)
NOTE FOR CONTROL TIMER

コネクタ
CONNECTOR (3 POLES)

MM409-661

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注 記 コントロールタイマ用 (YAZAKI 7122-2446)

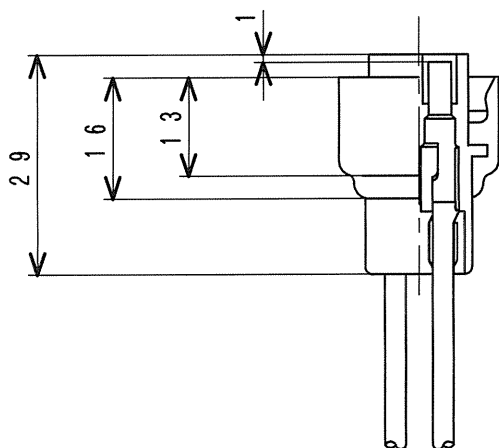
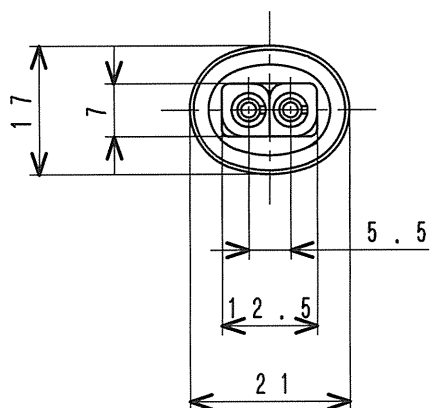
NOTE FOR CONTROL TIMER

コネクタ

CONNECTOR (4 POLES)

MM409-663

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注 記 タ* イナモ L, R端子用 (SK ENG ALTERNATOR)

油水分離付燃料フィルタ用

NOTE FOR L AND R TERMINALS OF ALTERNATOR (SK)
FOR FUEL FILTER WITH WATER SEPARATOR

コネクタ

CONNECTOR (2POLES)

MH052-231

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