
Trouble Shooting for **TM Actuator**



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Trouble 1.

Position output fault

- for example, - value not changed
- no position output signal
- hunting of position output

Cause, Check and Measures

- 1) R/I converter burned-out
 - C) by using tester, check output signal between terminal 31 and 32 (44 & 45) of terminal block and output signal of 2CON (red) as figure
 - M) exchange R/I converter if output signal not detected
- 2) Potentiometer faulty
 - C) by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
 - M) exchange potentiometer if value not changed
- 3) Noise between wires
 - M) exchange the shielding cable
- 4) Power setting faulty
 - C) check power setting of R/I converter with the naked eye
 - M) if not correct, reset power of R/I converter based on Integral 110 V and Basic 220 V
- 5) Plus(+) and minus (-) pole changed each other
 - C) by using tester, check whether plus (+) output comes out between 31 (red) and 32 (black)
 - M) correct the wiring if output is minus (-)

Others : check the wiring of R/I converter in terminal block



Trouble 2.

Main Breaker tripped when pushing Open and Close button

Cause, Check and Measures

- 1) Motor burned - out or insufficient insulation
 - C) by using tester, check resistance between motor wires and check whether resist values are same or by using mega tester, check whether resist values are about 1,000 Mohm
check whether burned-out after disassembling motor coil
 - M) exchange motor

- 2) MC burned - out
 - C) check whether circuit short occur with the naked eye
check contacts by using tester
 - M) exchange MC



Trouble 3.

Main Breaker tripped simultaneously when main power supplied

Cause, Check and Measures

1) Misconnection of wire

C) by using tester, check 3 phase of power line

it's ok if voltages are 380V between U-V, V-W and W-U

it's no good if voltages are 380V between U-V and W-U
110V between V-W

M) correct the wiring rightly

2) T/R burned – out or insufficient insulation

C) check whether T/R burned out with the naked eye

check normal voltage by using tester

M) exchange T/R



Trouble 4.

Actuator stops by torque sensing inside or outside position setting points

Cause, Check and Measures

- 1) Switch gear damaged or abrasive if actuator stops outside position setting points
 - C) check whether counter gear of switch unit damaged
 - M) exchange switch unit

- 2) Over-torque in valve occurred if actuator stops inside position setting points
 - C) check whether torque switch actuated in one side normally with the naked eye
check torque contact of terminal block by using tester
check how load is big by rotating manual hand wheel
 - M) check valve condition



Trouble 5.

Actuator do not work when sending order in control panel

Cause, Check and Measures

- 1) Voltage for control not appropriate
 - C) check the voltage of contacts in terminal block
if voltage of contacts is normal, demand to check the voltage and wiring of MCC panel to customer
 - M) check the voltage and correct the error if have

- 2) Voltage for motor not appropriate
 - C) check the power of 3 phase with opening and closing in MCC panel
 - M) if not appropriate, check the main power and correct the error

- 3) TH contacts not appropriate
 - C) by using tester, check whether contact of TH (21,22) is in B condition
 - M) if not appropriate, exchange the motor



Trouble 6.

Heat and noise (woong~) occur in motor during operation

Cause, Check and Measures

- 1) Voltage for motor is single phase
 - C) by using tester, check the three phase of motor power
it's ok if voltages are 380V between U-V, V-W and W-U
it's no good if voltages are 380V between U-V and W-U
110V between V-W
 - M) check the voltage and correct the error if have

- 2) Coils in motor was short or burned out
 - C) by using tester, check resistance between motor wires
and check whether resist values are same
or by using mega tester, check whether resist values
are about 1,000 Mohm
check whether burned-out after disassembling motor
coil
 - M) exchange motor



Trouble 7.

Actuator do not stop when position limit switches touch or lamps on the panel do not work

Cause, Check and Measures

- 1) Mis-wiring or defective relay in control panel
 - C) by using tester, check the voltage of COM line and wiring in control panel
 - M) exchange the defective parts and correct the mis-wiring
- 2) Panel lamp burned out
 - C) if contacts of terminal unit are normal, check the power of lamps
 - M) exchange lamp of panel
- 3) Limit switch damaged
 - C) by using tester, check contact of terminal unit or check whether limit switch is damaged with the naked eye
 - M) exchange limit switch



Trouble 8.

Signal of status output not detected

Cause, Check and Measures

- 1) Defective contact of terminal unit
 - C) by using tester, check the contacts
 - M) exchange the defective contacts

- 2) Limit or torque switch damaged
 - C) by using tester, check the contact and check whether limit switch is damaged with the naked eye
 - M) exchange the damaged switch

- 3) Internal wire of actuator damaged
 - C) check whether internal wire is damaged with the naked eye
 - M) exchange the damaged wire



Trouble 9.

Limit position changed

Cause, Check and Measures

- 1) Taking - off of snap ring assembled to limit shaft
 - C) check whether snap ring is properly positioned
 - M) if not, assemble the snap ring

- 2) Counter gear of switch unit damaged
 - C) check whether gears of switch unit are damaged with the naked eye
 - M) exchange the switch unit

- 3) Valve or reducer damaged
 - C) check the valve and reducer with the naked eye
 - M) repair the valve or reducer if necessary



Trouble 10.

Position limit setting not possible

Cause, Check and Measures

- 1) Abrasion of internal gear or counter gear in switch unit
 - C) check the condition of switch unit with the naked eye
 - M) exchange the switch unit if necessary



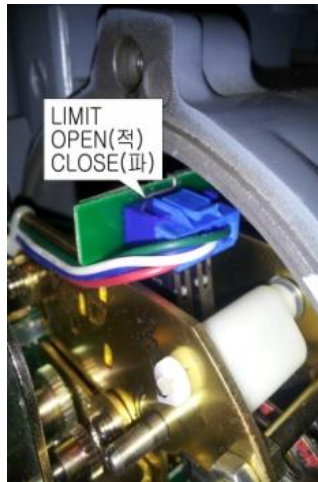
Trouble 11.

Stop of actuator by limit or torque switch not possible

Cause, Check and Measures

- 1) Position limit setting not appropriate
 - C) check the condition of setting
 - M) re-set the position limit and check the operation

- 2) Limit or torque switch damaged
 - C) check whether switches are damaged with the naked eye and check the contact of terminal unit by using tester
 - M) exchange the switch if damage

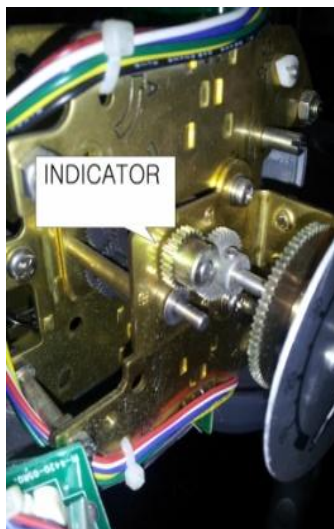


Trouble 12.

Arrow of continuous indicator not matched

Cause, Check and Measures

- 1) Abrasion of counter, A or B gear in indicator unit
 - C) after checking the condition of gear with the naked eye
 - M) exchange the indicator unit if necessary



Trouble 13.

Motor do not rotate

Cause, Check and Measures

- 1) Main power not supplied
 - C) by using tester, check whether power is on
 - M) if necessary, demand to supply the power to customer

- 2) Voltage not appropriate
 - C) by using tester, check whether the supplied voltage is same to the voltage written in nameplate
 - M) after clearing the cause, take measure for it

- 3) Insufficient insulation, flooding, overload or burning out of motor
 - C) by using tester, check resistance between motor wires and check whether resist values are same or by using mega tester, check whether resist values are about 1,000 Mohm
check whether burned-out after disassembling motor coil
 - M) exchange motor



Trouble 14.

Motor rotate reversely

Cause, Check and Measures

- 1) Wiring of three phase power changed
 - C) check U, V and W tag
 - M) exchange to connect the two lines among 3 lines



Trouble 15.

Open, close and fault lamp of LOP panel keep flickering

Cause, Check and Measures

- 1) Flooding of actuator
 - C) check whitening, damp or dew condensation of terminal unit or cover
 - M) exchange the damaged parts



Trouble 16.

Fault EOCR trip during operation

Cause, Check and Measures

- 1) Torque switch actuated because of overload
 - C) after separating actuator from valve, operate the actuator alone
 - M) if no problem, demand to check the valve to customer

- 2) EOCR actuated
 - C) increase set value of EOCR and try again
 - M) check set value of EOCR and re set



Trouble 17.

Output signal of R/I converter not detected

Cause, Check and Measures

- 1) Power setting of R/I converter not appropriate
 - C) by using tester, check output signal between terminal 31 and 32 (44 & 45) of terminal block and output signal of 2CON (red) as figure
 - M) check the power of R/I converter, that is, Basic 220V
- 2) Output line of terminal unit not appropriate
 - C) by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
 - M) correct the output line if necessary
- 3) R/I converter damaged due to thunder-stroke etc
 - C) check R/I converter with the naked eye
 - M) exchange R/I converter
- 4) Plus(+) and minus (-) pole changed each other
 - C) by using tester, check whether plus (+) output comes out between 31 (red) and 32 (black)
 - M) correct the wiring if output is minus (-)



Trouble 18.

Switch setting not possible

Cause, Check and Measures

- 1) Abrasion of internal gear in switch unit
 - C) check the abrasive of internal gear
 - M) exchange the switch unit



Trouble 19.

Stop by position or torque limit switch not possible

Cause, Check and Measures

- 1) Motor rotates reversely
 - C) check U, V and W tag
 - M) exchange to connect the two lines among 3 lines
- 2) Limit switch setting not appropriate
 - M) re set the limit switch
- 3) Limit or torque switch damaged
 - M) check the switch, exchange it if necessary
- 4) Mis connection of control wire from outside
 - M) check the connection and correct it



Trouble 20.

Motor starts rotating as soon as electric power input

Cause, Check and Measures

- 1) MCC panel not equipped
 - C) check whether MCC panel was installed
 - M) demand to equip MCC panel to customer



Trouble 21.

Actuator don't stop even though limit or torque switch be actuated

Cause, Check and Measures

- 1) Mis connection of control cable
 - C) by using tester, check the voltage of COM line and wiring in control panel
check the wiring of open, close
 - M) correct the mis-wiring



Trouble 22.

Actuator rotate only forwardly, or reversely

Cause, Check and Measures

- 1) Mis connection of MCC panel
 - C) check the wiring of forward and reverse in MCC panel
 - M) correct the mis-wiring if necessary



Trouble 1.

Lamps of red, green and yellow keep flickering

Cause, Check and Measures

- 1) Phase of main power connected reversely
 - C) check phase of main power
 - M) correct the mis-wiring in order of R, S and T



Trouble 2.

Lamps of red and green keep flickering , but yellow is on

Cause, Check and Measures

- 1) Missing out of any phase in main power
 - C) by using tester, check 3 phase of power line
it's ok if voltages are 380V between U-V, V-W and W-U
it's no good if voltages are 380V between U-V and W-U
110V between V-W
 - M) check whether 3 phase power rightly input

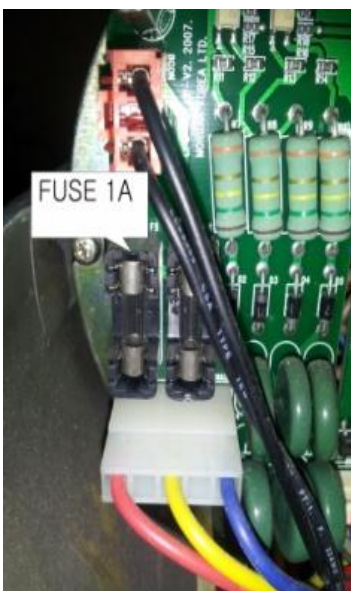


Trouble 3.

Actuator do not work without operating faulty lamps turned- on

Cause, Check and Measures

- 1) Damage of fuse in power board
 - C) by using tester, check the fuse
 - M) exchange the fuse
- 2) Error or damage of power board
 - C) check the power board with the naked eye
 - M) exchange the power board
- 3) Error or damage of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board
- 4) Main power not supplied
 - C) by using test, check the power and whether MCC NFB off
 - M) supply the main power



Trouble 4.

Actuator do not work with operating faulty lamps turned-on

Cause, Check and Measures

- 1) Error or damage of power board
 - C) check the power board damaged with naked eye
 - M) exchange the power board

- 2) Error or damage of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board

- 3) Shortage or burn-out of motor
 - C) by using tester, check resistance between motor wires and check whether resist values are same or by using mega tester, check whether resist values are about 1,000 Mohm
check whether burned-out after disassembling motor coil
check whether motor wire is cut with naked eye
 - M) exchange motor



Trouble 5.

Operating faulty lamp is flickering

Cause, Check and Measures

- 1) Shortage of motor TH wire
 - C) check "B" contact of motor TH with tester
 - M) exchange the motor
- 2) Defect of power board
 - C) check the power board with the naked eye
 - M) exchange the power board
- 3) Defect of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board
- 4) Bad connection of the cable for operation
 - C) Remove cable and reconnect them.
 - M) exchange the cable

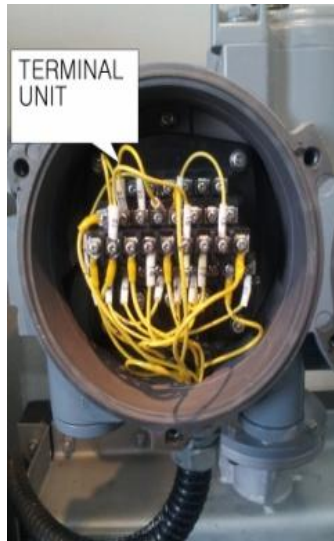


Trouble 6.

Operating faulty lamp is turned on

Cause, Check and Measures

- 1) Engagement of torque switch because of overload
 - C) by using tester, check the torque contact by rotating hand wheel, check the load
 - M) normally operated if overload is removed
- 2) Shortage of torque contact
 - C) check the torque switch with the naked eye by using tester, check the terminal and limit contacts
 - M) exchange the terminal unit and limit switch if they are damaged as a result of check



Trouble 7.

In local mode, opening works well, but closing don't work or vice versa

Cause, Check and Measures

- 1) Function error of operating sensor
 - C) by using tester, check the contact
 - M) exchange the operating board
- 2) Function error of operating magnet
 - C) check the condition of magnet and remove them if any contaminants
 - M) exchange the magnet if not get better
- 3) Trouble of power board
 - C) check the burn-out of power board with naked eye
 - M) exchange the power board
- 4) Trouble of Limit PCB
 - C) check the burn-out of limit pcb by using tester, check the contact
 - M) exchange the Limit PCB
- 5) Trouble of magnetic contactor
 - C) check the burn-out of M/C by using tester, check the contact of M/C
 - M) exchange the M/C



Trouble 8.

**In local mode, opening and closing work well.
but in remote mode, opening works well, but closing don't
work or vice versa**

Cause, Check and Measures

- 1) Error of control signal from control panel
 - C) check the jumper line between 1 to 2 and 1 to 3 in terminal block
check the open and close contact after removing external line
 - M) if the line is ok, then check the control panel
- 2) Trouble of operating board
 - C) check the burn-out of operating board with naked eye
 - M) exchange the operating board
- 3) Trouble of power board
 - C) check the burn-out of power board with naked eye
 - M) exchange the power board



Trouble 9.

When switching from local to remote, or vice versa there is no change in the remote contact

Cause, Check and Measures

- 1) Function error of operating sensor
 - C) by using tester, check the contact
 - M) exchange the operating board

- 2) Function error of operating magnet
 - C) check the condition of magnet and remove them if any contaminants
 - M) exchange the magnet if not get better

- 3) Trouble of power board
 - C) check the burn-out of power board with naked eye
 - M) exchange the power board



Trouble 10.

Main Breaker tripped when pushing Open and Close button

Cause, Check and Measures

- 1) Motor burned - out or insufficient insulation
 - C) by using tester, check resistance between motor wires and check whether resist values are same or by using mega tester, check whether resist values are about 1,000 Mohm check whether burned-out after disassembling motor coil
 - M) exchange motor
- 2) MC burned - out
 - C) check whether circuit short occur with the naked eye check contacts by using tester
 - M) exchange MC



Trouble 11.

Main Breaker tripped simultaneously when main power supplied

Cause, Check and Measures

- 1) Misconnection of wire
 - C) by using tester, check 3 phase of power line
it's ok if voltages are 380V between U-V, V-W and W-U
it's no good if voltages are 380V between U-V and W-U
110V between V-W
 - M) correct the wiring rightly
- 2) T/R burned – out or insufficient insulation
 - C) check whether T/R burned out with the naked eye
check normal voltage by using tester
 - M) exchange T/R



Trouble 12.

Signal of status output not detected

Cause, Check and Measures

- 1) Defective contact of terminal unit
 - C) by using tester, check the contacts
 - M) exchange the defective contacts
- 2) Limit or torque switch damaged
 - C) by using tester, check the contact and check whether limit switch is damaged with the naked eye
 - M) exchange the damaged switch
- 3) Internal wire of actuator damaged
 - C) check whether internal wire is damaged with the naked eye
 - M) exchange the damaged wire



Trouble 13.

Motor do not rotate

Cause, Check and Measures

- 1) Main power not supplied
 - C) by using tester, check whether power is on
 - M) if necessary, demand to supply the power to customer
- 2) Voltage not appropriate
 - C) by using tester, check whether the supplied voltage is same to the voltage written in nameplate
 - M) after clearing the cause, take measure for it
- 3) Insufficient insulation, flooding, overload or burning out of motor
 - C) by using tester, check resistance between motor wires and check whether resist values are same or by using mega tester, check whether resist values are about 1,000 Mohm
check whether burned-out after disassembling motor coil
 - M) exchange motor
- 4) Burn-out of power board, magnetic contactor or transformer
 - C) check the burn- out of power board, m/c or t/r with naked eye and check the fuse of power board
 - M) exchange the damaged parts
- 5) Trouble of operating board
 - C) check the burn-out of power board with naked eye
 - M) exchange the power board



Trouble 14.

Position output fault

- for example, - value not changed
- no position output signal
- hunting of position output

Cause, Check and Measures

- 1) R/I converter burned-out
 - C) by using tester, check output signal between terminal 31 and 32 (44 & 45) of terminal block and output signal of 2CON (red) as figure
 - M) exchange R/I converter if output signal not detected
- 2) Potentiometer faulty
 - C) by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
 - M) exchange potentiometer if value not changed
- 3) Noise between wires
 - M) exchange the shielding cable
- 4) Power setting faulty
 - C) check power setting of R/I converter with the naked eye
 - M) if not correct, reset power of R/I converter based on Integral 110 V and Basic 220 V
- 5) Plus(+) and minus (-) pole changed each other
 - C) by using tester, check whether plus (+) output comes out between 31 (red) and 32 (black)
 - M) correct the wiring if output is minus (-)

Others : check the wiring of R/I converter in terminal block



Trouble 15.

Limit position changed

Cause, Check and Measures

- 1) Taking - off of snap ring assembled to limit shaft
 - C) check whether snap ring is properly positioned
 - M) if not, assemble the snap ring

- 2) Counter gear of switch unit damaged
 - C) check whether gears of switch unit are damaged with the naked eye
 - M) exchange the switch unit

- 3) Valve or reducer damaged
 - C) check the valve and reducer with the naked eye
 - M) repair the valve or reducer if necessary



Trouble 16.

Position limit setting not possible

Cause, Check and Measures

- 1) Abrasion of internal gear or counter gear in switch unit
 - C) check the condition of switch unit with the naked eye
 - M) exchange the switch unit if necessary



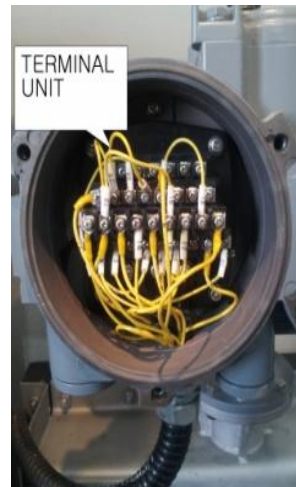
Trouble 17.

Stop of actuator by limit or torque switch not possible

Cause, Check and Measures

- 1) Position limit setting not appropriate
 - C) check the condition of setting
 - M) re-set the position limit and check the operation

- 2) Limit or torque switch damaged
 - C) check whether switches are damaged with the naked eye and check the contact of terminal unit by using tester
 - M) exchange the switch if damage

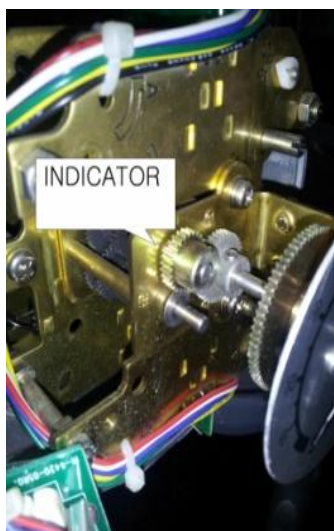


Trouble 18.

Arrow of continuous indicator not matched

Cause, Check and Measures

- 1) Abrasion of counter, A or B gear in indicator unit
 - C) after checking the condition of gear with the naked eye
 - M) exchange the indicator unit if necessary



Trouble 19.

In the local mode, holding operation don't work

Cause, Check and Measures

- 1) Trouble of operating board
 - C) after checking the condition of operating board
 - M) exchange the operating board



Trouble 20.

Contacts of local, stop and remote not detected

Cause, Check and Measures

- 1) Trouble of contacts in terminal
 - C) by using tester, check the contacts
 - M) exchange the mal-functional contacts
- 2) Contact trouble in connector of operating board
 - C) remove and reconnect the connector
 - M) exchange the connector if have problem
- 3) Contaminated magnet of selector switch
 - C) check the condition of magnet
 - M) remove the contaminant in magnet
if not got better, exchange the integral cover
- 4) Burn-out of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board



Trouble 21.

Buttons for open, close and stop don't work

Cause, Check and Measures

- 1) Contamination of magnet
 - C) check the condition of magnet
 - M) remove the contaminant in magnet
if not got better, exchange the integral cover
- 2) Contact trouble in connector of operating board
 - C) remove and reconnect the connector
 - M) exchange the connector if have problem
- 3) Burn-out of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board



Trouble 1.

Lamps of red, green and yellow keep flickering

Cause, Check and Measures

- 1) Phase of main power connected reversely
 - C) check phase of main power
 - M) correct the mis-wiring in order of R, S and T



Trouble 2.

Lamps of red and green keep flickering , but yellow is on

Cause, Check and Measures

- 1) Missing out of any phase in main power
 - C) by using tester, check 3 phase of power line
it's ok if voltages are 380V between U-V, V-W and W-U
it's no good if voltages are 380V between U-V and W-U
110V between V-W
 - M) check whether 3 phase power rightly input



Trouble 3.

Error ph loss

Cause, Check and Measures

- 1) Missing out of any phase in main power
 - C) by using tester, check 3 phase of power line
it's ok if voltages are 380V between U-V, V-W and W-U
it's no good if voltages are 380V between U-V and W-U
110V between V-W
 - M) check whether 3 phase power rightly input



Trouble 4.

Error 3 Phase

Cause, Check and Measures

- 1) Missing out of any phase in main power
 - C) by using tester, check 3 phase of power line
it's ok if voltages are 380V between U-V, V-W and W-U
it's no good if voltages are 380V between U-V and W-U
110V between V-W
 - M) check whether 3 phase power rightly input



Trouble 5.

Error motor Th

Cause, Check and Measures

- 1) Activated motor thermal protector
 - C) check the actuator after separating it from valve
check whether there are voltage drop during operation
 - M) if valve causes overload, ask for valve check to client
after removing the cause of overload, retry it
 - ※ if thermal protector is not defective, motor will work
after cooling down naturally

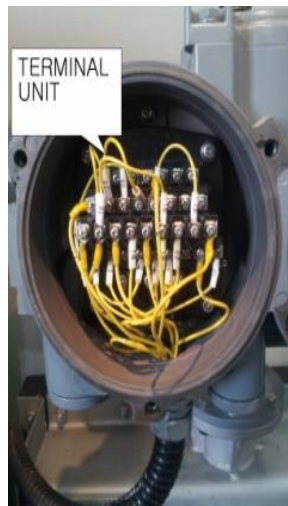


Trouble 6.

Error mA Input

Cause, Check and Measures

- 1) Modulating signals are not transmitted to the actuator
 - C) by using tester, check the current of external input line
check the wiring of external line into terminal number
33(46) , 34(47)
check the actuator wiring with the naked eye
 - M) if insufficient wiring, fix it again



Trouble 7. **Error Feed Back**

Cause, Check and Measures

- 1) Input error of potentiometer data
 - C) check whether potentiometer gear derail from the normal position with the naked eye by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
 - M) assemble the gear rightly and reset resistance value

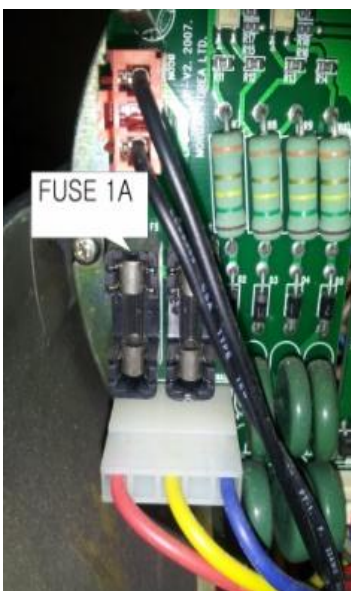


Trouble 8.

Actuator do not work without operating faulty lamps turned- on

Cause, Check and Measures

- 1) Damage of fuse in power board
 - C) by using tester, check the fuse
 - M) exchange the fuse
- 2) Error or damage of power board
 - C) check the power board with the naked eye
 - M) exchange the power board
- 3) Error or damage of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board
- 4) Main power not supplied
 - C) by using test, check the power and whether MCC NFB off
 - M) supply the main power



Trouble 9.

Actuator do not work with operating faulty lamps turned-on

Cause, Check and Measures

- 1) Error or damage of power board
 - C) check the power board damaged with naked eye
 - M) exchange the power board

- 2) Error or damage of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board

- 3) Shortage or burn-out of motor
 - C) by using tester, check resistance between motor wires and check whether resist values are same or by using mega tester, check whether resist values are about 1,000 Mohm
check whether burned-out after disassembling motor coil
check whether motor wire is cut with naked eye
 - M) exchange motor



Trouble 10.

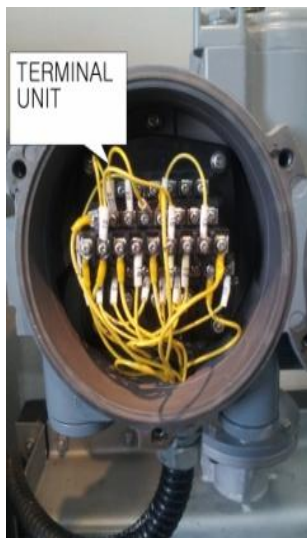
Operating F1 and F3 lamps are turned on

Cause, Check and Measures

- 1) Engagement of torque switch because of overload
 - C) by using tester, check the torque contact
by rotating hand wheel, check the load
 - M) normally operated if overload is removed

- 2) Shortage of torque contact
 - C) check the torque switch with the naked eye
by using tester, check the terminal and limit contacts
 - M) exchange the terminal unit and limit switch if they
are damaged as a result of check

- 3) Program error of operating board
 - C) check the actuator after separating it from valve
 - M) update the operating program if overload do not derive
from the valve



Trouble 11.

Operating F2 lamp is turned-on

Cause, Check and Measures

- 1) Shortage of motor TH wire
 - C) check "B" contact of motor TH with tester
 - M) exchange the motor
- 2) Defect of power board
 - C) check the power board with the naked eye
 - M) exchange the power board
- 3) Defect of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board
- 4) Bad connection of the cable for operation
 - C) Remove cable and reconnect them.
 - M) exchange the cable



Trouble 12.

In local mode, opening works well, but closing don't work or vice versa

Cause, Check and Measures

- 1) Function error of operating sensor
 - C) by using tester, check the contact
 - M) exchange the operating board
- 2) Function error of operating magnet
 - C) check the condition of magnet and remove them if any contaminants
 - M) exchange the magnet if not get better
- 3) Trouble of power board
 - C) check the burn-out of power board with naked eye
 - M) exchange the power board
- 4) Trouble of Limit PCB
 - C) check the burn-out of limit pcb by using tester, check the contact
 - M) exchange the Limit PCB
- 5) Trouble of magnetic contactor
 - C) check the burn-out of M/C by using tester, check the contact of M/C
 - M) exchange the M/C



Trouble 13.

**In local mode, opening and closing work well.
but in remote mode, opening works well, but closing don't
work or vice versa**

Cause, Check and Measures

- 1) Error of control signal from control panel
 - C) check the jumper line between 1 to 2 and 1 to 3 in terminal block
check the open and close contact after removing external line
 - M) if the line is ok, then check the control panel
- 2) Trouble of operating board
 - C) check the burn-out of operating board with naked eye
 - M) exchange the operating board
- 3) Trouble of power board
 - C) check the burn-out of power board with naked eye
 - M) exchange the power board



Trouble 14.

Main Breaker tripped when pushing Open and Close button

Cause, Check and Measures

- 1) Motor burned - out or insufficient insulation
 - C) by using tester, check resistance between motor wires and check whether resist values are same or by using mega tester, check whether resist values are about 1,000 Mohm check whether burned-out after disassembling motor coil
 - M) exchange motor

- 2) MC burned - out
 - C) check whether circuit short occur with the naked eye check contacts by using tester
 - M) exchange MC



Trouble 15.

Main Breaker tripped simultaneously when main power supplied

Cause, Check and Measures

- 1) Misconnection of wire
 - C) by using tester, check 3 phase of power line
it's ok if voltages are 380V between U-V, V-W and W-U
it's no good if voltages are 380V between U-V and W-U
110V between V-W
 - M) correct the wiring rightly

- 2) T/R burned – out or insufficient insulation
 - C) check whether T/R burned out with the naked eye
check normal voltage by using tester
 - M) exchange T/R



Trouble 16.

When switching from local to remote, or vice versa there is no change in the remote contact

Cause, Check and Measures

- 1) Function error of operating sensor
 - C) by using tester, check the contact
 - M) exchange the operating board
- 2) Function error of operating magnet
 - C) check the condition of magnet and remove them if any contaminants
 - M) exchange the magnet if not get better
- 3) Trouble of power board
 - C) check the burn-out of power board with naked eye
 - M) exchange the power board



Trouble 17.

Signal of status output not detected

Cause, Check and Measures

- 1) Defective contact of terminal unit
C) by using tester, check the contacts
M) exchange the defective contacts
- 2) Limit or torque switch damaged
C) by using tester, check the contact and check whether limit switch is damaged with the naked eye
M) exchange the damaged switch
- 3) Internal wire of actuator damaged
C) check whether internal wire is damaged with the naked eye
M) exchange the damaged wire



Trouble 18.

Motor do not rotate

Cause, Check and Measures

- 1) Main power not supplied
 - C) by using tester, check whether power is on
 - M) if necessary, demand to supply the power to customer

- 2) Voltage not appropriate
 - C) by using tester, check whether the supplied voltage is same to the voltage written in nameplate
 - M) after clearing the cause, take measure for it

- 3) Insufficient insulation, flooding, overload or burning out of motor
 - C) by using tester, check resistance between motor wires and check whether resist values are same or by using mega tester, check whether resist values are about 1,000 Mohm
check whether burned-out after disassembling motor coil
 - M) exchange motor

- 4) Burn-out of power board, magnetic contactor or transformer
 - C) check the burn- out of power board, m/c or t/r with naked eye and check the fuse of power board
 - M) exchange the damaged parts

- 5) Trouble of operating board
 - C) check the burn-out of power board with naked eye
 - M) exchange the power board



Trouble 19.

Position output fault

- for example, - value not changed
- no position output signal
- hunting of position output

Cause, Check and Measures

- 1) R/I converter burned-out
 - C) by using tester, check output signal between terminal 31 and 32 (44 & 45) of terminal block and output signal of 2CON (red) as figure
 - M) exchange R/I converter if output signal not detected
- 2) Trouble of logic board for modulating
 - C) check the burn-out of the logic board with naked eye
 - M) exchange the logic board if burned-out
- 3) Potentiometer faulty
 - C) by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
 - M) exchange potentiometer if value not changed
- 4) Plus(+) and minus (-) pole changed each other
 - C) by using tester, check whether plus (+) output comes out between 31 (red) and 32 (black)
 - M) correct the wiring if output is minus (-)
- 5) Noise between wires
 - M) exchange the shielding cable

Others : check the wiring of R/I converter in terminal block



Trouble 20.

Limit position changed

Cause, Check and Measures

- 1) Taking - off of snap ring assembled to limit shaft
 - C) check whether snap ring is properly positioned
 - M) if not, assemble the snap ring

- 2) Counter gear of switch unit damaged
 - C) check whether gears of switch unit are damaged with the naked eye
 - M) exchange the switch unit

- 3) Valve or reducer damaged
 - C) check the valve and reducer with the naked eye
 - M) repair the valve or reducer if necessary



Trouble 21.

Position limit setting not possible

Cause, Check and Measures

- 1) Abrasion of internal gear or counter gear in switch unit
 - C) check the condition of switch unit with the naked eye
 - M) exchange the switch unit if necessary



Trouble 22.

Stop of actuator by limit or torque switch not possible

Cause, Check and Measures

- 1) Position limit setting not appropriate
 - C) check the condition of setting
 - M) re-set the position limit and check the operation

- 2) Limit or torque switch damaged
 - C) check whether switches are damaged with the naked eye and check the contact of terminal unit by using tester
 - M) exchange the switch if damage

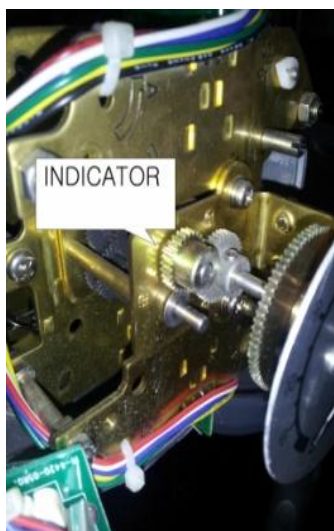


Trouble 23.

Arrow of continuous indicator not matched

Cause, Check and Measures

- 1) Abrasion of counter, A or B gear in indicator unit
 - C) after checking the condition of gear with the naked eye
 - M) exchange the indicator unit if necessary



Trouble 24.

In the local mode, holding operation don't work

Cause, Check and Measures

- 1) Trouble of operating board
 - C) after checking the condition of operating board
 - M) exchange the operating board



Trouble 25.

Contacts of local, stop and remote not detected

Cause, Check and Measures

- 1) Trouble of contacts in terminal
 - C) by using tester, check the contacts
 - M) exchange the mal-functional contacts
- 2) Contact trouble in connector of operating board
 - C) remove and reconnect the connector
 - M) exchange the connector if have problem
- 3) Contaminated magnet of selector switch
 - C) check the condition of magnet
 - M) remove the contaminant in magnet
if not got better, exchange the integral cover
- 4) Burn-out of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board



Trouble 26.

Buttons for open, close and stop don't work

Cause, Check and Measures

- 1) Contamination of magnet
 - C) check the condition of magnet
 - M) remove the contaminant in magnet
if not got better, exchange the integral cover
- 2) Contact trouble in connector of operating board
 - C) remove and reconnect the connector
 - M) exchange the connector if have problem
- 3) Burn-out of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board



Trouble 27.

Position value of valve displayed in LCD is not correct

- valve is moving, but value not changed
- value not matched to mechanical indicator

Cause, Check and Measures

- 1) Trouble of R/I converter
 - C) by using tester, check output signal between terminal 31 and 32 (44 & 45) of terminal block and output signal of 2CON (red) as figure
 - M) exchange R/I converter if output signal not detected
- 2) Trouble of operating board
 - C) check the operating board with the naked eye
 - M) exchange the operating board
- 3) Potentiometer faulty
 - C) by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
 - M) exchange potentiometer if value not changed
- 4) Setting of operating pot not yet executed
 - M) execute setting of operating pot at full closing position



Trouble 28.

In modulating type, position value output is not correct

- valve is moving, but value not changed
- output signal not detected
- hunting output signal

Cause, Check and Measures

- 1) Trouble of logic board
 - C) by using tester, check output signal between terminal 31 and 32 (44 & 45) of terminal block
 - check the burn-out of logic board with the naked eye
 - M) exchange the logic board
- 2) Potentiometer faulty
 - C) by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
 - M) exchange potentiometer if value not changed
- 3) Noise between wires
 - M) exchange the shielding cable



Trouble 29.

In modulating type, position value of valve displayed in LCD is not correct

- valve is moving, but value not changed
- value not matched to mechanical indicator

Cause, Check and Measures

1) Trouble of logic board

- C) by using tester, check output signal between terminal 31 and 32 (44 & 45) of terminal block
check the burn-out of logic board with the naked eye
- M) exchange the logic board

2) Potentiometer faulty

- C) by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
- M) exchange potentiometer if value not changed

3) Setting of operating pot not yet executed

- M) execute setting of operating pot at full closing position



Trouble 30.

Modulating operation don't work

Cause, Check and Measures

- 1) Inappropriate setting or trouble of logic board
M) re set the program of logic board or exchange it
- 2) Potentiometer faulty
C) by using tester, check whether resist value change from 0 to 1 kohm at resist lines (blue and black)
M) exchange potentiometer if value not changed
- 3) Mis-wiring of plus(+) or minus(-) in the input 4~20mA line
C) by using tester, check whether output signal of 31 (red) and 32(black) is plus(+)
M) if minus(-) output signal is detected, exchange the wiring rightly



Trouble 31.

In modulating mode, letters in LCD are broken or not displayed

Cause, Check and Measures

- 1) Inappropriate connection of operating and logic board
 - C) check the condition of cable connection with the naked eye
 - M) fix the cable rightly
- 2) Trouble of logic board
 - M) exchange the logic board
- 3) Other
 - M) turn off, and turn on the main power

