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NOTES



The standard wiring diagrams do not deal with the options fitted on the crane.
Therefore the wiring diagrams specific to the connections of the options must be consulted in addition.



WIRING DIAGRAMS / OPTION)

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1. PRINCIPLE OF CURRENT SUPPLY

B132N	:	Thermostat 4 contacts	Q100M	:	Main power switch of crane supply
F150F	:	Protective fuse of the cable winder motor	Q101F	:	Secondary protective switch of main transformer
H300H	:	Signal lamp ON	Q108F	:	Circuit breaker of 230 V supply
H314H	:	Signal lamp 100%	Q131A	:	Circuit breaker of cab heating
H320H	:	Horn	S100X	:	"ON" control contact
H322H	:	Buzzer	S101X	:	Emergency stop button contact
K100M	:	Main contactor of current supply	S320X	:	Horn control contact
K102A	:	Resetting relay	S400X	:	Electric locking contact at zero
K181A	:	Validating relay of lifting cab	S511S	:	Travelling forward overrun switch contact
K184A	:	Trolley winch safety relay	S516S	:	Travelling backward overrun switch contact
K401A	:	Control relay of hoisting safety devices	S600X	:	Electric locking contact at zero
M150M	:	Cable winder motor	T100F	:	Main transformer of low voltage supply
Q100F	:	Primary protective switch of main transformer	V100F	:	Rectifier



2. PRINCIPLE OF CURRENT SUPPLY

B132N : Thermostat 4 contacts

E360D : Control panel heating

K931A : Erection switch relay position 1

K932A : Erection switch relay position 2

K933A : Erection switch relay position 3

K934A : Erection switch relay position 4

K935A : Erection switch relay position 5

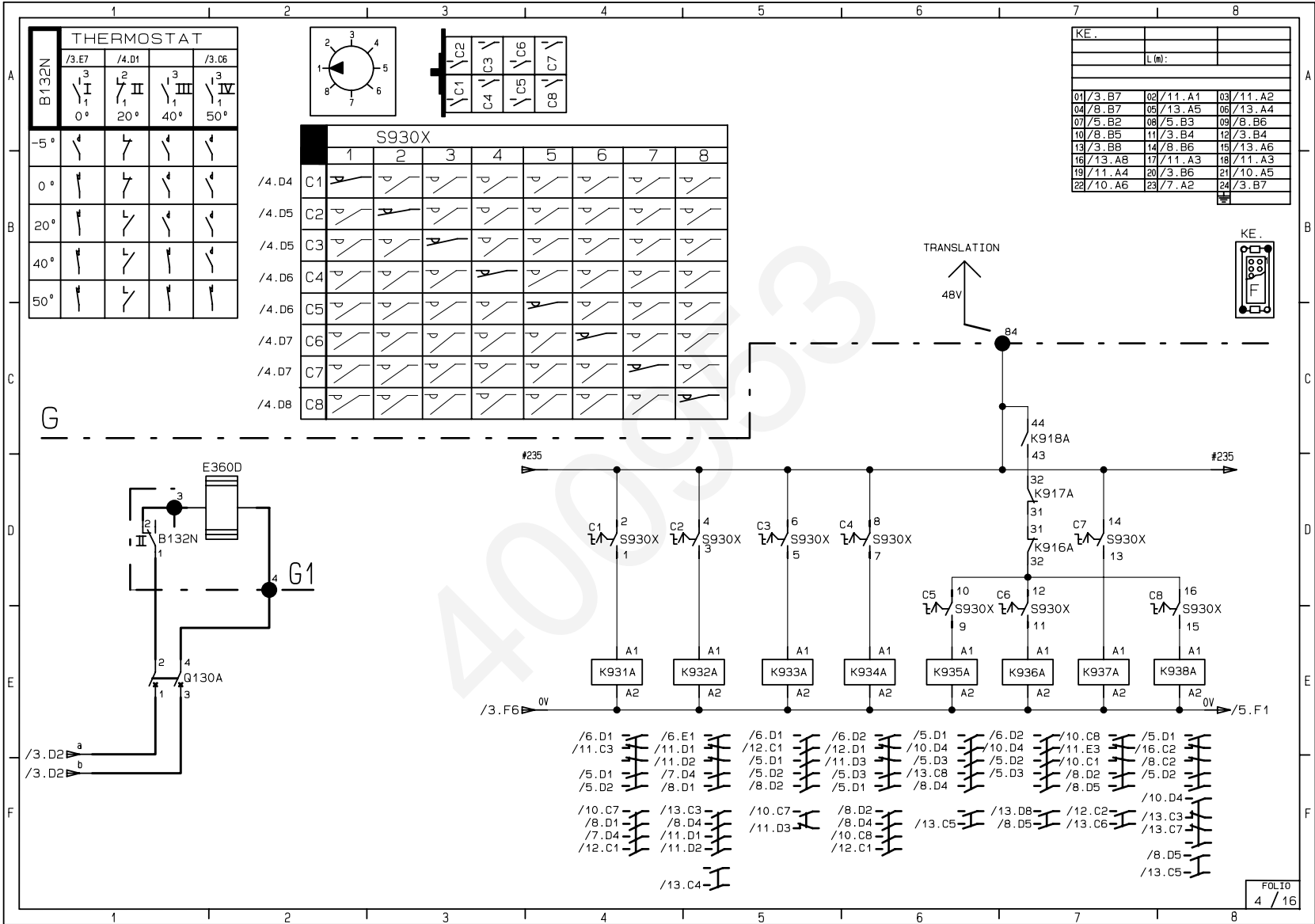
K936A : Erection switch relay position 6

K937A : Erection switch relay position 7

K938A : Erection switch relay position 8

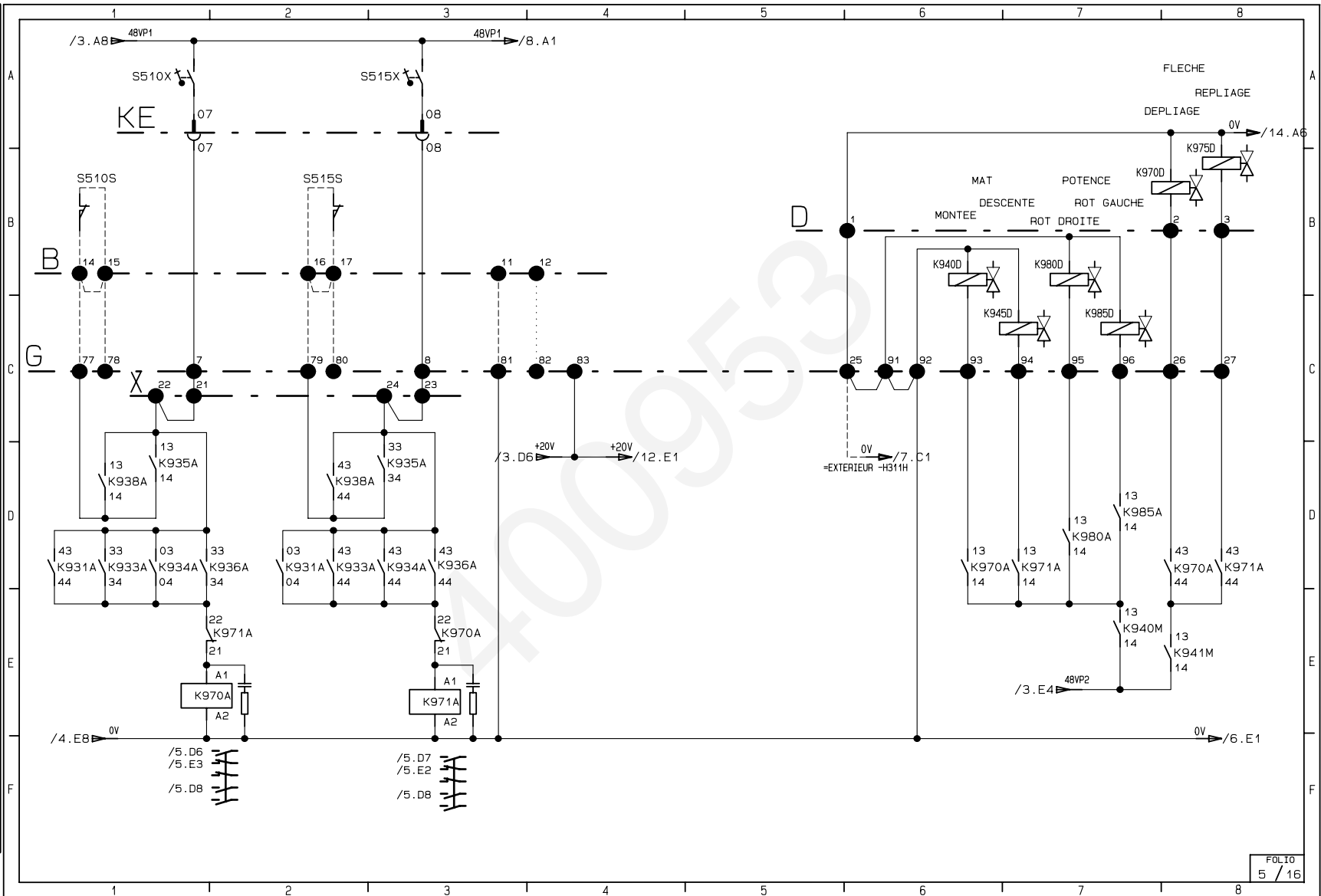
Q130A : Circuit breaker of control panel heating/ventilation supply

S930X : Erection switch contact



3. ERECTION PRINCIPLE

K931A	:	Erection switch relay position 1	K970D	:	Control electrovalve for unfolding the jib or jib nose
K933A	:	Erection switch relay position 3	K971A	:	Electrovalve control relay for jib folding
K934A	:	Erection switch relay position 4	K975D	:	Control electrovalve for folding the jib or jib nose
K935A	:	Erection switch relay position 5	K980A	:	Control relay of derrick cylinder "slewing to right"
K936A	:	Erection switch relay position 6	K980D	:	Control electrovalve of derrick "slewing to right"
K938A	:	Erection switch relay position 8	K985A	:	Control relay of derrick cylinder "slewing to left"
K940D	:	Control electrovalve for mast upward	K985D	:	Control electrovalve of derrick "slewing to left"
K940M	:	Hydraulic unit motor contactor	S510S	:	Safety contact of "Travelling forward" limit switch
K941M	:	Contactor of hydraulic unit motor 2	S510X	:	Travelling forward control contact
K945D	:	Control electrovalve for mast downward	S515S	:	Travelling backward limit switch contact
K970A	:	Electrovalve control relay for jib unfolding	S515X	:	Travelling backward control contact



4. ERECTION PRINCIPLE

D910D	:	Electronic delay time of the jib retaining winch control	K935A	:	Erection switch relay position 5
H321H	:	Horn 2	K936A	:	Erection switch relay position 6
K100M	:	Main contactor of current supply	K938A	:	Erection switch relay position 8
K909A	:	Relay for working with raised jib	K940M	:	Hydraulic unit motor contactor
K910M	:	Jib retaining winch contactor	K941M	:	Contactor of hydraulic unit motor 2
K916A	:	Jib retaining winch control relay	M940M	:	Hydraulic unit motor
K917A	:	Time-delay relay for jib retaining winch locking	M941M	:	Hydraulic unit motor 2
K918A	:	Safety relay for jib retaining winch locking	Q940M	:	Circuit breaker of the hydraulic unit supply
K931A	:	Erection switch relay position 1	B916N	:	Inductive detector of rod in rest position
K932A	:	Erection switch relay position 2	B917N	:	Inductive detector of rod slackened
K933A	:	Erection switch relay position 3	B918N	:	Inductive detecteur of rod in tension
K934A	:	Erection switch relay position 4			



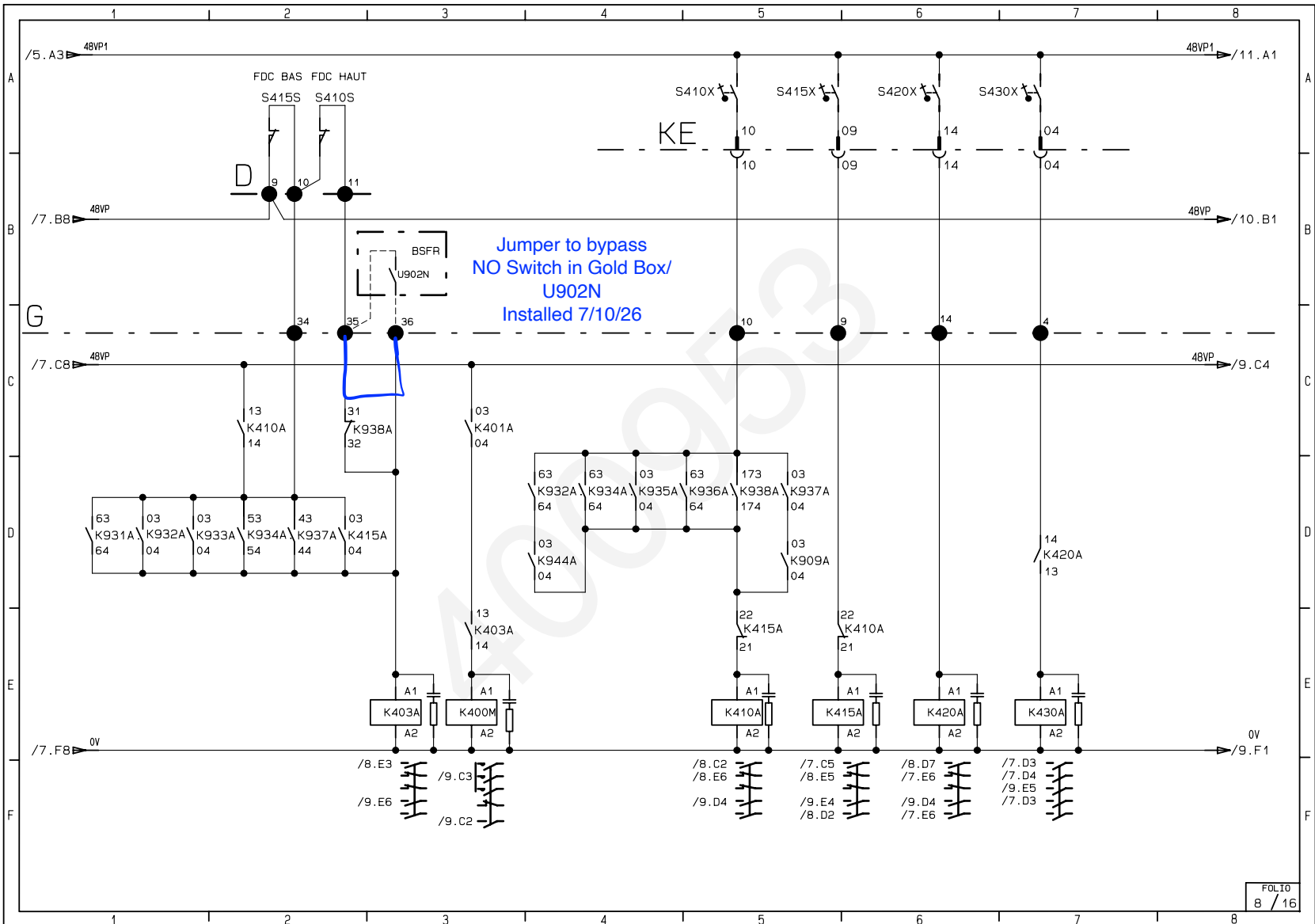
5. PRINCIPLE OF HOIST WINCH

B402N	:	Inductive detector of the hoisting speed control	K830A	:	Trolley winch control relay notch 3
H304H	:	Signal lamp 90%	K931A	:	Erection switch relay position 1
H311H	:	Flashing lamp	K932A	:	Erection switch relay position 2
K102A	:	Resetting relay	S400S	:	Hoisting moment control contact
K401A	:	Control relay of hoisting safety devices	S402S	:	Hoisting moment safety contact 90 %
K412A	:	Relay of MSWL cutout	S403S	:	90% MSWL cutout contact
K413A	:	Relay of MSWL cutout	S411S	:	Maximum load control contact
K414A	:	Relay of MSWL cutout	S432S	:	Control contact of load 1st load case
K415A	:	“Lowering” control relay	S433S	:	Control contact of load – 2nd load case
K420A	:	Hoist winch control relay 2nd notch	S434S	:	Control contact of load – 3rd load case
K430A	:	Hoist winch control relay 3rd notch	S800S	:	Trolleying moment control contact
K810A	:	“Trolley out” control relay	U402N	:	Electronic control block of underspeed
K810M	:	“Trolley out” contactor			



6. PRINCIPLE OF HOIST WINCH

K400M	:	Hoist winch main contactor	K935A	:	Erection switch relay position 5
K401A	:	Control relay of hoisting safety devices	K936A	:	Erection switch relay position 6
K403A	:	Limit switch safety relay	K937A	:	Erection switch relay position 7
K410A	:	“Hoisting” control relay	K938A	:	Erection switch relay position 8
K415A	:	“Lowering” control relay	S410S	:	Upper hoist limit switch contact
K420A	:	Hoist winch control relay 2nd notch	S410X	:	“Hoisting” control contact
K430A	:	Hoist winch control relay 3rd notch	S415S	:	Lower hoist limit switch contact
K931A	:	Erection switch relay position 1	S415X	:	“Lowering” control contact
K932A	:	Erection switch relay position 2	S420X	:	Hoist winch control contact notch 2 or PV with PC
K933A	:	Erection switch relay position 3	S430X	:	Hoist winch control contact notch 3 or GV with PC
K934A	:	Erection switch relay position 4	U902N	:	Electronic control block of raised jib



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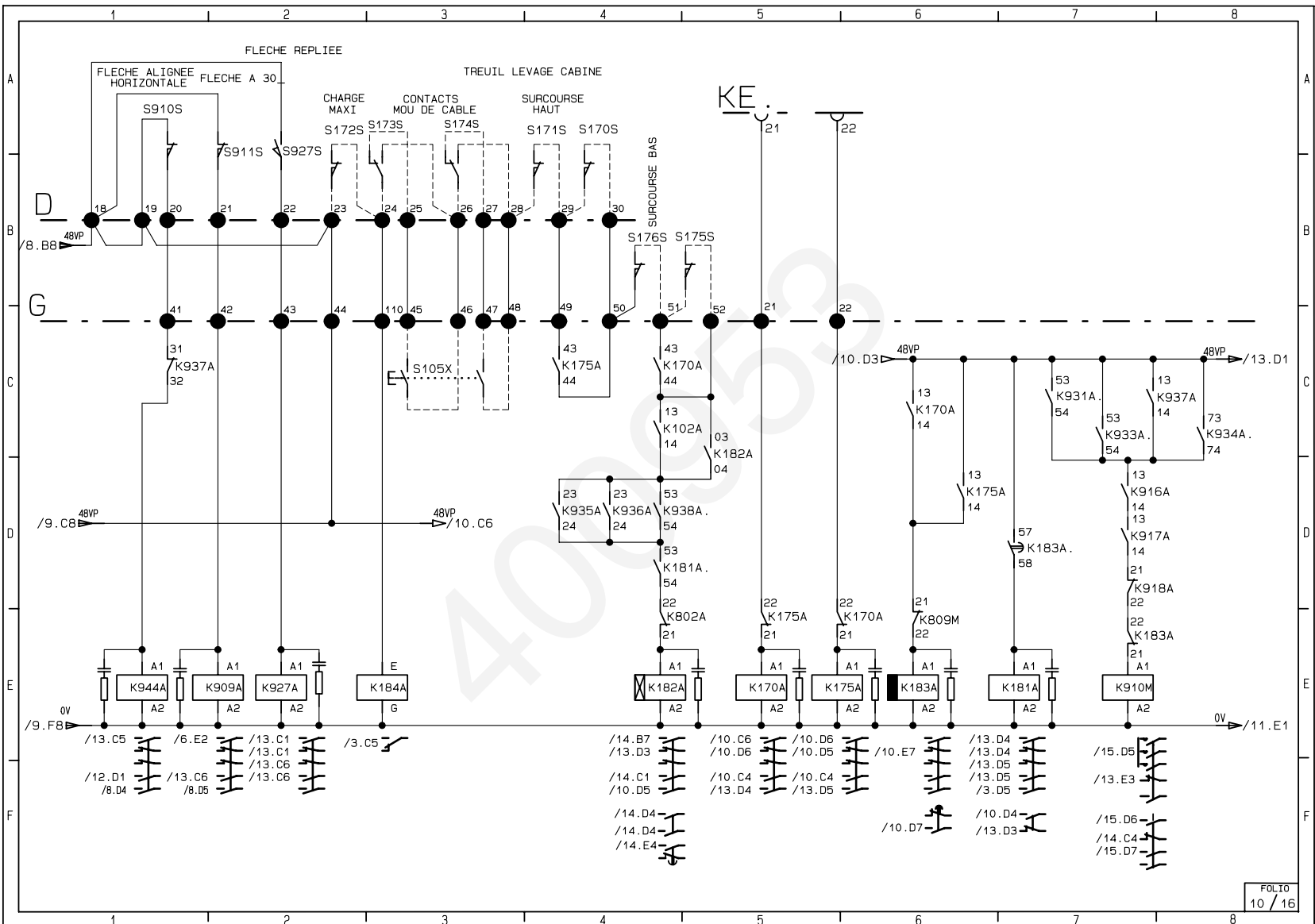
7. PRINCIPLE OF HOIST WINCH

K100M	:	Main contactor of current supply	K420A	:	Hoist winch control relay 2nd notch
K400M	:	Hoist winch main contactor	K430A	:	Hoist winch control relay 3rd notch
K401A	:	Control relay of hoisting safety devices	M400M	:	Hoist motor
K403A	:	Limit switch safety relay	Q400M	:	Main circuit breaker of the hoist winch
K409M	:	Hoist winch brake contactor	R400D	:	Resistant element of the hoist winch
K410A	:	“Hoisting” control relay	U400X	:	Electronic control block of hoist winch
K412A	:	Relay of MSWL cutout	V401F	:	Overvoltage limiter of the hoist brake
K413A	:	Relay of MSWL cutout	V402F	:	Hoist winch brake rectifier
K414A	:	Relay of MSWL cutout	Y400M	:	Hoist winch brake
K415A	:	“Lowering” control relay			



8. PRINCIPLE OF HOIST WINCH

K102A	:	Resetting relay	K935A	:	Erection switch relay position 5
K170A	:	Control relay of lifting cab “up”	K936A	:	Erection switch relay position 6
K175A	:	Control relay of lifting cab “down”	K937A	:	Erection switch relay position 7
K181A	:	Validating relay of lifting cab	K938A	:	Erection switch relay position 8
K182A	:	Safety relay of lifting cab	K944A	:	Safety relay of horizontal jib
K183A	:	Safety relay of lifting cab	S105X	:	Shunting switch contact
K916A	:	Jib retaining winch control relay	S170S	:	Upper hoist limit switch contact
K917A	:	Time–delay relay for jib retaining winch locking	S171S	:	Upper overrun limit switch contact
K918A	:	Safety relay for jib retaining winch locking	S172S	:	MSWL cutout
K184A	:	Trolley winch safety relay	S173S	:	Rope slack safety contact
K802A	:	Safety relay of trolley winch	S174S	:	Rope slack safety contact
K809M	:	Trolley winch brake contactor	S175S	:	Lower hoist limit switch contact
K909A	:	Relay for working with raised jib	S176S	:	Lower overrun limit switch contact
K910M	:	Jib retaining winch contactor	S910S	:	Safety contact of jib level
K931A	:	Erection switch relay position 1	S911S	:	Safety contact of jib raised to 30°
K933A	:	Erection switch relay position 3	S927S	:	Safety contact of long jib
K934A	:	Erection switch relay position 4			



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K609A : Control relay of slewing brake

9. PRINCIPLE OF SLEWING MECHANISM

K610A : Control relay "Slewing to right"

K615A : Control relay "slewing to the left"

K620A : Control relay of slewing mechanism notch 2

K630A : Control relay of slewing mechanism notch 3

K931A : Erection switch relay position 1

K932A : Erection switch relay position 2

K933A : Erection switch relay position 3

K934A : Erection switch relay position 4

K937A : Erection switch relay position 7

K980A : Control relay of derrick cylinder "slewing to right"

K985A : Control relay of derrick cylinder "slewing to left"

S609X : Slewing brake control contact

S610S : "Slewing to right" limit switch contact

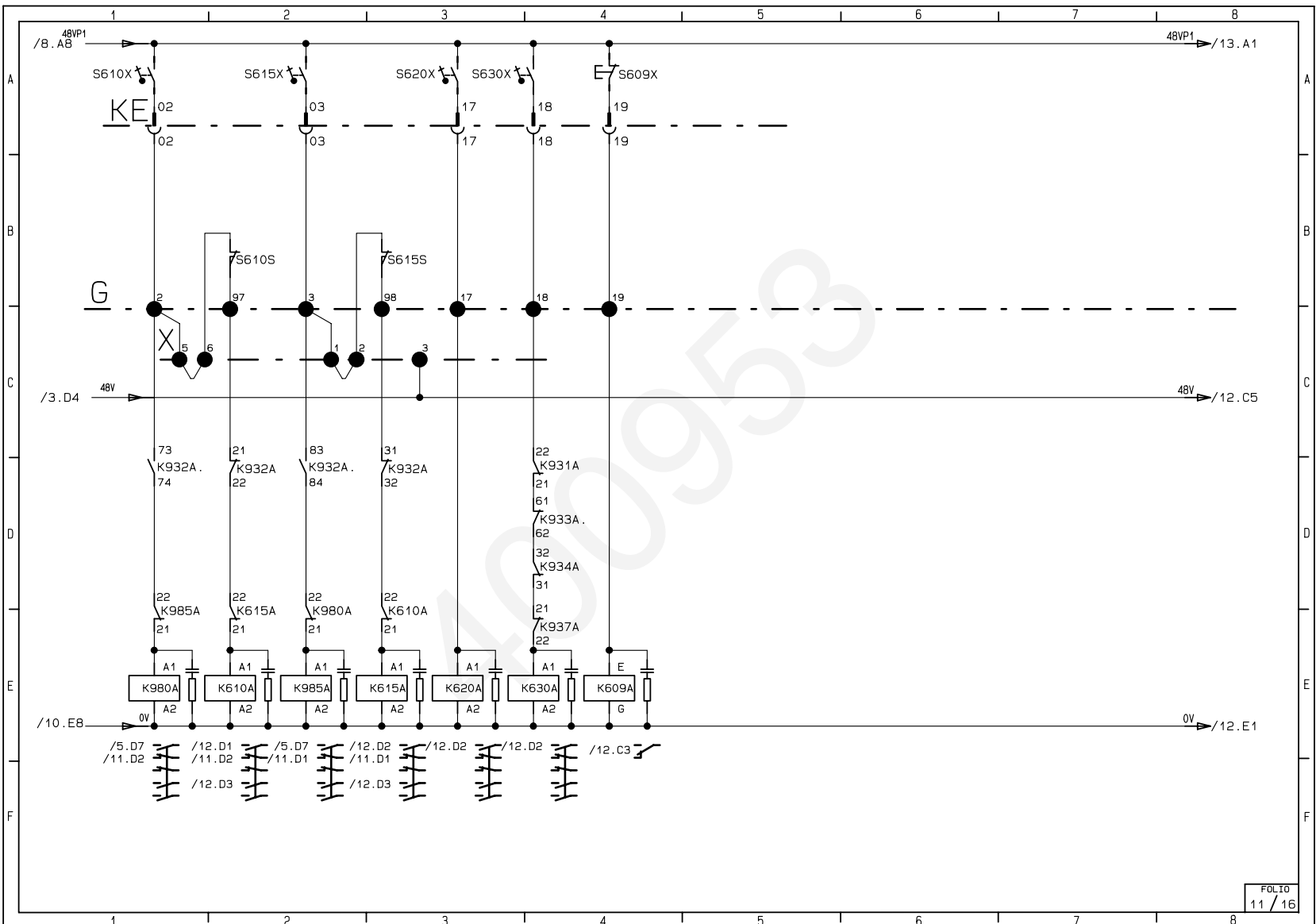
S610X : "Slewing to right" control contact

S615S : "Slewing to left" limit switch contact

S615X : "Slewing to left" control contact

S620X : Slewing mechanism control contact notch 2 or PV

S630X : Slewing mechanism control contact notch 3



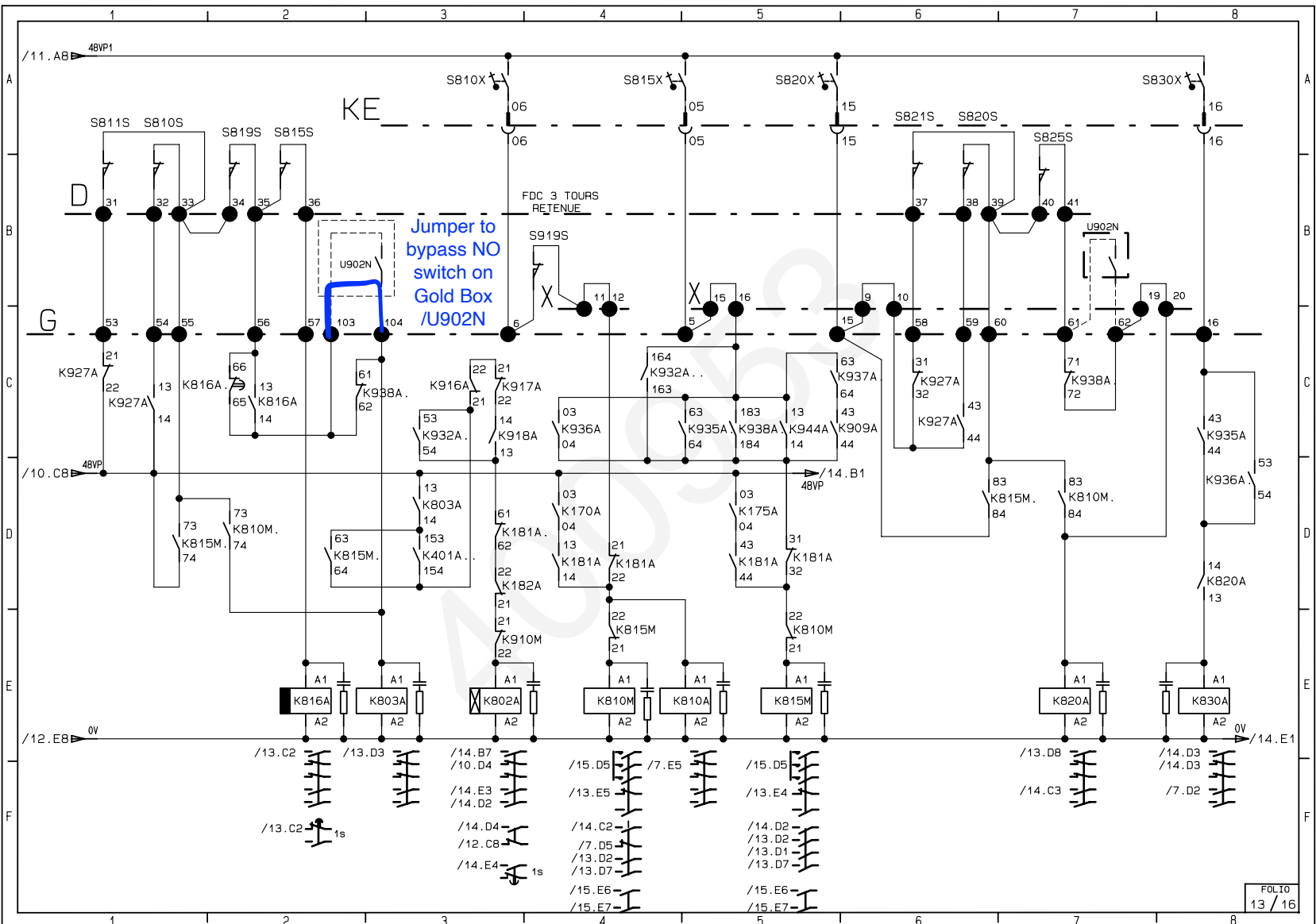
10. PRINCIPLE OF SLEWING MECHANISM

H302H	:	Weathervaning signal lamp	K937A	:	Erection switch relay position 7
K100M	:	Main contactor of current supply	K944A	:	Safety relay of horizontal jib
K401A	:	Control relay of hoisting safety devices	M600M	:	Slewing motor
K600D	:	Magnet coil of weathervaning	Q600M	:	Main circuit breaker of the slewing mechanism
K608M	:	Control contactor of slewing brake	R601D	:	Resistor
K609A	:	Control relay of slewing brake	R602D	:	Resistor
K610A	:	Control relay "Slewing to right"	S640X	:	Weathervaning control contact
K615A	:	Control relay "slewing to the left"	U230X	:	Electronic control block of radio control
K620A	:	Control relay of slewing mechanism notch 2	U600X	:	Electronic block of slewing control
K630A	:	Control relay of slewing mechanism notch 3	V601D	:	Diode
K802A	:	Safety relay of trolley winch	V601F	:	Overvoltage limiter of the slewing brake
K931A	:	Erection switch relay position 1	V602D	:	Diode
K933A	:	Erection switch relay position 3	Y600M	:	Slewing mechanism brake
K934A	:	Erection switch relay position 4			



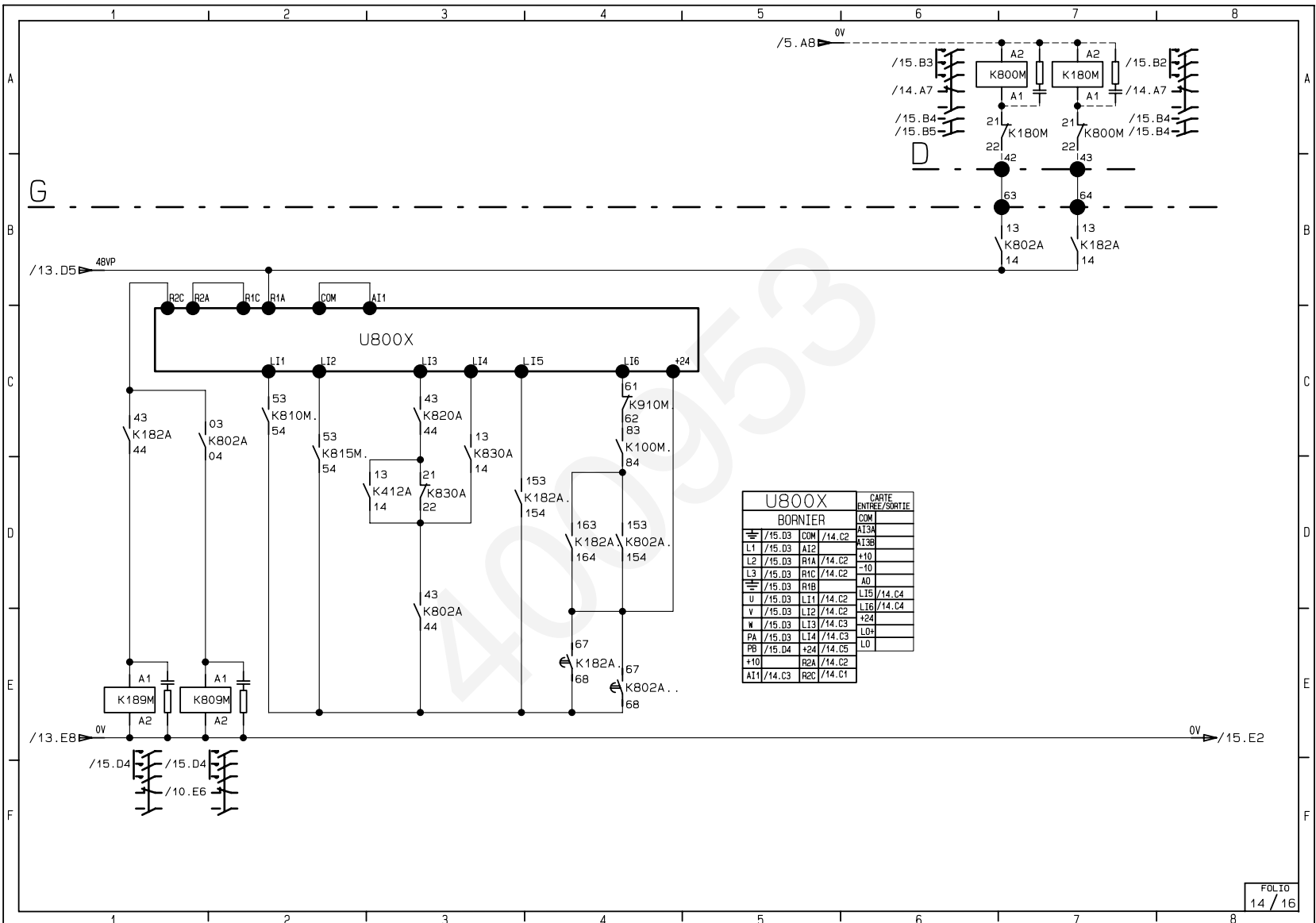
11. PRINCIPLE OF TROLLEY WINCH

K170A	:	Control relay of lifting cab “up”	K936A	:	Erection switch relay position 6
K175A	:	Control relay of lifting cab “down”	K937A	:	Erection switch relay position 7
K181A	:	Validating relay of lifting cab	K938A	:	Erection switch relay position 8
K182A	:	Safety relay of lifting cab	K944A	:	Safety relay of horizontal jib
K401A	:	Control relay of hoisting safety devices	S810S	:	Trolley out limit switch contact
K802A	:	Safety relay of trolley winch	S810X	:	Trolley out control contact
K803A	:	Safety relay of limit switch	S811S	:	Trolley out limit switch contact – short jib
K810A	:	“Trolley out” control relay	S815S	:	Trolley in limit switch contact
K810M	:	“Trolley out” contactor	S815X	:	Trolley in control contact
K815M	:	“Trolley in” contactor	S819S	:	Trolley rope tension safety contact
K816A	:	“Trolley in” limit switch shunt relay	S820S	:	Trolley out decelerating switch contact
K820A	:	Control relay – trolley winch 2nd notch	S820X	:	Trolley winch control contact notch 2 or PV
K830A	:	Trolley winch control relay notch 3	S821S	:	Trolley out decelerating switch contact – short jib
K909A	:	Relay for working with raised jib	S825S	:	Trolley in decelerating switch contact
K910M	:	Jib retaining winch contactor	S830X	:	Trolley winch control contact notch 3
K918A	:	Safety relay for jib retaining winch locking	S919S	:	Safety contact of end of unwinding of jib retaining winch
K935A	:	Erection switch relay position 5	U902N	:	Electronic control block of raised jib



12. PRINCIPLE OF TROLLEY WINCH

K100M	:	Main contactor of current supply	K809M	:	Trolley winch brake contactor
K180M	:	Main contactor of lifting cab	K810M	:	"Trolley out" contactor
K182A	:	Safety relay of lifting cab	K815M	:	"Trolley in" contactor
K189M	:	Brake contactor of cab lifting winch	K820A	:	Control relay – trolley winch 2nd notch
K412A	:	Relay of MSWL cutout	K830A	:	Trolley winch control relay notch 3
K800M	:	Trolley winch main contactor	K910M	:	Jib retaining winch contactor
K802A	:	Safety relay of trolley winch	U800X	:	Electronic trolley winch control block



K100M : Main contactor of current supply

13. PRINCIPLE OF TROLLEY WINCH

K102M : Detection contactor 380 V

K180M : Main contactor of lifting cab

K189M : Brake contactor of cab lifting winch

K800M : Trolley winch main contactor

K809M : Trolley winch brake contactor

K810M : "Trolley out" contactor

K815M : "Trolley in" contactor

K910M : Jib retaining winch contactor

L800F : Trolley winch choke

M170M : Lifting cab motor

M800M : Trolley winch motor

M910M : Jib retaining winch motor

Q800M : Main circuit breaker of trolley winch

R100D : Protective resistor

R800D : Resistant element of the trolley winch

U800X : Electronic trolley winch control block

V180F : Overvoltage limiter

V801F : Overvoltage limiteur of trolley winch brake

Y170M : Motor brake of lifting cab

Y800M : Trolley winch brake

Y910M : Jib retaining winch brake



14. WIRING OF SOCKETS

B400N	:	Strain gauge ring
K938A	:	Erection switch relay position 8
R400S	:	Potentiometer of hoisting stroke
R800S	:	Potentiometer of trolleying stroke
S306X	:	Control contact of wind sensor safety test
S407X	:	Rope reeving control contact
U230X	:	Electronic control block of radio control
U902N	:	Electronic control block of raised jib

