그로브 — GMK ECOS ⑤ 계통별 상세

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참고자료입니다. 실제 정비는 해당 장비의 정품 매뉴얼과 제조사 서비스망을 따르십시오. 원문 저작권은 각 제조사에 있습니다.

최신 자료: https://cranecoop.kr/errors-print.html?book=grove-ecos-detail

GMK ECOS ⑤ 계통별 상세

출처: ECOS System Description GMK 4080 — Error Codes, ECOS Ver 01.00.00 (Thomas Heidrich · Olaf Berthold TK4, 2006-03-11)

ECOS 화면에는 네 토막 숫자가 뜬다 — 장치-그룹-색인-에러번호, 각 자리 0~255. 예: 1-2-5-3 = ESX 0 / 아날로그 입력 / 색인 5 / Vcc 단락. 장치·그룹 배정은 모든 에러 메시지에 공통이고, 색인·에러번호는 장치에 따라 확장 정보로 쓰인다(해당 없으면 그 자리에 숫자가 안 뜬다). 이 표는 네 토막을 **조합한 실제 코드**와 그 뜻이다. 원문 영문 그대로 싣는다 — 문장이 길고 전문 용어가 많아 기계 번역이 뜻을 흐린다. 원문 상세표는 평문 추출에서 행 정렬이 깨져 있었고, 코드 수와 설명 수가 정확히 맞는 묶음만 채택했다. 맞지 않는 묶음(주로 CAN 버스 절)은 코드와 조치가 어긋날 수 있어 싣지 않았다 — 해당 코드는 ①~④ 해독표로 뜻을 조합하시라.

번호 · 코드	내용 · 원인 · 조치 · 원문
1 · 25-12-0-14	내용: [절환 접점] Both directional contacts switched (Tilt cab)
2 · 25-12-1-14	내용: [절환 접점] Both directional contacts switched (Increase speed)
3 · 25-16-0-0	내용: [핀 고정(피닝)] Error of the EKS4 length sensor for the telescoping cylinder length 설명: The redundant length control (comparison of ECOS length with EKS4 length) is no longer operating, resulting in losses in the system safety of the telescoping system
4 · 25-16-1-4	내용: [핀 고정(피닝)] Error in comparing the ECOS length with the EKS4 length 설명: The difference in the two lengths has exceeded the tolerance threshold (set by service software), i.e. · one of the two length sensors is emitting an invalid value · Semi- and fully automatic operation are no longer functioning; · 핀 체결 계통 가능 만 조작됨 내 비상운전 · 중 비상운전 전류 길이 의 ECOS 길이 센서 및 EKS4 길이 센서 표시됨; · a decision has to be made as to which length information is correct 설명 원문: The difference in the two lengths has exceeded the tolerance threshold (set by service software), i.e. one of the two length sensors is emitting an invalid value - Semi- and fully automatic operation are no longer functioning; the pinning system can only be operated in emergency operation - During emergency operation the current length of the ECOS length sensor and the EKS4 length sensor are displayed; a decision has to be made as to which length information is correct

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5 · 25-16-1-5	내용: [핀 고정(피닝)] Error in controlling the telescoping cylinder movement 설명: It was established that the current direction of movement of the telescoping cylinder contradicts the telescoping system's operating status (e.g. · retracting direction of movement and extending operating status) · Semi- and fully automatic operation are no longer functioning; · 핀 체결 계통 가능 만 조작됨 내 비상운전 설명 원문: It was established that the current direction of movement of the telescoping cylinder contradicts the telescoping system's operating status (e.g. retracting direction of movement and extending operating status) - Semi- and fully automatic operation are no longer functioning; the pinning system can only be operated in emergency operation
6 · 25-16-2-1	내용: [핀 고정(피닝)] Error in controlling the telescope status 설명: The telescope status is inconclusive in itself (e.g. · more than one telescope section unlocked) · 전체 기능 의 텔레스코핑 시스템 차단됨; · a valid telescope status must first be input or a change made to emergency operation 설명 원문: The telescope status is inconclusive in itself (e.g. more than one telescope section unlocked) - All the functions of the telescoping system are blocked; a valid telescope status must first be input or a change made to emergency operation
7 · 25-16-2-2	내용: [핀 고정(피닝)] Error in controlling the telescope status 설명: The position of the telescoping cylinder in connection with the telescope status contradicts the pinning system's operating status (is only evaluated in TLSL operating status) · 전체 기능 의 텔레스코핑 시스템 차단됨; · a valid telescope status must first be input or a change made to emergency operation 설명 원문: The position of the telescoping cylinder in connection with the telescope status contradicts the pinning system's operating status (is only evaluated in TLSL operating status) - All the functions of the telescoping system are blocked; a valid telescope status must first be input or a change made to emergency operation
8 · 25-16-2-3	내용: [핀 고정(피닝)] Error in controlling the telescope status 설명: The current telescope status contradicts the pinning system's current operating status (e.g. · TLSU operating status, however according to telescope status no telescope section is unlocked) · 전체 기능 의 텔레스코핑 시스템 차단됨; · a valid telescope status must first be input or a change made to emergency operation 설명 원문: The current telescope status contradicts the pinning system's current operating status (e.g. TLSU operating status, however according to telescope status no telescope section is unlocked) - All the functions of the telescoping system are blocked; a valid telescope status must first be input or a change made to emergency operation
9 · 25-16-2-4	내용: [핀 고정(피닝)] Error in controlling the telescope status 설명: The proximity switches' signals for detecting the position of the telescoping cylinder (S2116N, S2117N, S3709N, S3710N) contradict the pinning system's current operating status (e.g. · TLSU operating status, however none of the proximity switches has switched) · 전체 기능 의 텔레스코핑 시스템 차단됨; · a valid telescope status must first be input or a change made to emergency operation 설명 원문: The proximity switches' signals for detecting the position of the telescoping cylinder (S2116N, S2117N, S3709N, S3710N) contradict the pinning system's current operating status (e.g. TLSU operating status, however none of the proximity switches has switched) - All the functions of the telescoping system are blocked; a valid telescope status must first be input or a change made to emergency operation

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10 · 25-16-2-5	내용: [핀 고정(피닝)] Error in controlling the telescope status 설명: The proximity switches' signals for detecting the position of the telescoping cylinder (S2116N, S2117N, S3709N, S3710N) contradict the telescope status and the position of the telescoping cylinder (this error is only evaluated in TUSL operating status; · proximity switches have switched but the telescoping cylinder is not within a foot section) · 전체 기능 의 텔레스코핑 시스템 차단됨; · a valid telescope status must first be input or a change made to emergency operation 설명 원문: The proximity switches' signals for detecting the position of the telescoping cylinder (S2116N, S2117N, S3709N, S3710N) contradict the telescope status and the position of the telescoping cylinder (this error is only evaluated in TUSL operating status; proximity switches have switched but the telescoping cylinder is not within a foot section) - All the functions of the telescoping system are blocked; a valid telescope status must first be input or a change made to emergency operation
11 · 25-16-3-n	내용: [핀 고정(피닝)] Error in detecting the locking status 설명: The evaluation of the proximity switches' signals for detecting the locking status (S2110N – S2115N) produces an invalid status · Semi- and fully automatic operation are no longer functioning; · 핀 체결 계통 가능 만 조작됨 내 비상운전 · The error number 'n' indicates which proximity switches (S2110N · S2115N) were switched at the time the error occurred · See explanations regarding this in Chapter 2.6.2.1 설명 원문: The evaluation of the proximity switches' signals for detecting the locking status (S2110N – S2115N) produces an invalid status - Semi- and fully automatic operation are no longer functioning; the pinning system can only be operated in emergency operation - The error number ' n' indicates which proximity switches (S2110N - S2115N) were switched at the time the error occurred - See explanations regarding this in Chapter 2.6.2.1
12 · 25-16-4-0	내용: [핀 고정(피닝)] Error in the unlocking mechanism 설명: 잘못됨 핀 해제됨 중 잠금해제 요구 (e.g. · request for the telescoping cylinder to be unlocked, but the telescope section was unlocked) · Presumed error: valve Y2130 for switching over unlocking between telescoping cylinder and telescope section is sticking. · - Semi- and fully automatic operation are no longer functioning; · 핀 체결 계통 가능 만 조작됨 내 비상운전 설명 원문: The wrong pins were released during an unlocking request (e.g. request for the telescoping cylinder to be unlocked, but the telescope section was unlocked) - Presumed error: valve Y2130 for switching over unlocking between telescoping cylinder and telescope section is sticking. - Semi- and fully automatic operation are no longer functioning; the pinning system can only be operated in emergency operation
13 · 25-16-5-0	내용: [핀 고정(피닝)] Error of proximity switches S3709N and S3710N 설명: Both proximity switches S2116N and S2117N have switched, but neither of the proximity switches S3709N and S3710N have switched. · - Possible mechanical error: the telescoping cylinder moved to the right so that the proximity switches on the left-hand side of the telescoping cylinder have lost contact to the trigger plates. · - There might be function restrictions of the telescoping system. · The recognition of the foot sections might fail. · It may be that the telescoping cylinder cannot be locked to a telescope section any more. · 내 경우, 텔레스코핑 시스템 가능 만 조작됨 내 비상운전. 설명 원문: Both proximity switches S2116N and S2117N have switched, but neither of the proximity switches S3709N and S3710N have switched. - Possible mechanical error: the telescoping cylinder moved to the right so that the proximity switches on the left-hand side of the telescoping cylinder have lost contact to the trigger plates. - There might be function restrictions of the telescoping system. The recognition of the foot sections might fail. It may be that the telescoping cylinder cannot be locked to a telescope section any more. In this case, the telescoping system can only be operated in emergency operation.

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14 · 25-16-5-1	내용: [핀 고정(피닝)] Error of proximity switches S2116N and S2117N 설명: Both proximity switches S3709N and S3710N have switched, but neither of the proximity switches S2116N and S2117N have switched. · - Possible mechanical error: the telescoping cylinder moved to the left so that the proximity switches on the right-hand side of the cylinder have lost contact to the trigger plates. · - There might be function restrictions of the telescoping system. · The recognition of the foot sections might fail. · It may be that the telescoping cylinder cannot be locked to a telescope section any more. · 내 경우, 텔레스코핑 시스템 가능 만 조작됨 내 비상운전. 설명 원문: Both proximity switches S3709N and S3710N have switched, but neither of the proximity switches S2116N and S2117N have switched. - Possible mechanical error: the telescoping cylinder moved to the left so that the proximity switches on the right-hand side of the cylinder have lost contact to the trigger plates. - There might be function restrictions of the telescoping system. The recognition of the foot sections might fail. It may be that the telescoping cylinder cannot be locked to a telescope section any more. In this case, the telescoping system can only be operated in emergency operation.
15 · 25-16-6-n	내용: [핀 고정(피닝)] Error of the proximity switch S2116N, S2117N, S3709N or S3710N 설명: The error code number 'n' determines the respective proximity switch to which the error message relates: n = 0 → S2116N n = 1 → S2117N n = 2 → S3709N n = 3 → S3710N - The proximity switch remains switched all the time although the telescoping cylinder is not within a foot section of a telescope section
16 · 25-17-25-17	내용: [캐리어(하부주행체)] Error in input signals to separate steering 설명: The limit switches' signals for detecting the status of the separate steering pot (S4703M = low, S4704M = high) are not conclusive · 점검 한계 스위치' 신호 설명 원문: The limit switches' signals for detecting the status of the separate steering pot (S4703M = low, S4704M = high) are not conclusive - check the limit switches' signals
17 · 25-17-0-6	내용: [캐리어(하부주행체)] Both switches steering to left and to right are activated simultaneously
18 · 1..4-18-0-1	내용: [시스템 감시] Error in the control system's start phase • The earth connection to the housing of the relevant ESX is not OK • The housing's earthing should be checked.
19 · 1..4-18-0-2	내용: [시스템 감시] Error in the control system's start phase • One of the outputs of the relevant ESX has a connection to the supply voltage.
20 · 1..4-18-0-4	내용: [시스템 감시] Error in the control system's start phase • The initiating current of the output VCC perm. is greater than 3 amperes. • A component at the Vcc perm. connection is causing a short circuit
21 · 1..4-18-0-6	내용: [시스템 감시] Operating error • The total of all of the VCC perm. output current was greater than 10 amperes. • A component at the Vcc perm. connection is causing a short circuit
22 · 1..4-18-0-7	내용: [시스템 감시] Operating error • The total of all the output currents was greater than 28 amperes.
23 · 1..4-18-0-8	내용: [시스템 감시] Operating error • The 8.5V output voltage is outside the tolerance. • A component at the 8.5V connection is causing a short circuit, or the control system is defective.
24 · 1..4-18-0-9	내용: [시스템 감시] Operating error • Slave has detected a failure of the CAN masters. • The CAN bus connection should be checked.
25 · 1..4-18-0-10	내용: [시스템 감시] Operating error • The control system's output drivers are not supplied with voltage. • Check fuses and supply voltage.

번호 · 코드	내용 · 원인 · 조치 · 원문
26 · 9..13-18-1-0	내용: [시스템 감시] Error during access to the EEProm • Board is to be replaced, if error message occurs with increased frequency
27 · 9..13-18-1-1	내용: [시스템 감시] No voltage supply via plug X9.1 of IO board • Check wiring to IO board and also fuse on the IO board
28 · 9..13-18-1-2	내용: [시스템 감시] No voltage supply via plug X9.2 of IO board • Check wiring to IO board and also fuse on the IO board
29 · 25-20-2-0	내용: [메인 윈치] Control pressure LS detected for positive and negative direction of movement
30 · 25-20-2-1	내용: [메인 윈치] In the positive direction of movement control pressure LS was detected for negative direction of movement
31 · 25-20-2-2	내용: [메인 윈치] In the negative direction of movement control pressure LS was detected for positive direction of movement
32 · 25-20-2-3	내용: [메인 윈치] In the STOP condition control pressure LS was detected for positive direction of movement
33 · 25-20-2-4	내용: [메인 윈치] In the STOP condition control pressure LS was detected for negative direction of movement
34 · 25-21-2-0	내용: [보조 윈치] Control pressure LS detected for positive and negative direction of movement
35 · 25-21-2-1	내용: [보조 윈치] In the positive direction of movement control pressure LS was detected for negative direction of movement
36 · 25-21-2-2	내용: [보조 윈치] In the negative direction of movement control pressure LS was detected for positive direction of movement
37 · 25-21-2-3	내용: [보조 윈치] In the STOP condition control pressure LS was detected for positive direction of movement
38 · 25-21-2-4	내용: [보조 윈치] In the STOP condition control pressure LS was detected for negative direction of movement
39 · 25-22-2-0	내용: [데릭] Control pressure LS detected for positive and negative direction of movement
40 · 25-22-2-1	내용: [데릭] In the positive direction of movement control pressure LS was detected for negative direction of movement
41 · 25-22-2-2	내용: [데릭] In the negative direction of movement control pressure LS was detected for positive direction of movement
42 · 25-22-2-3	내용: [데릭] In the STOP condition control pressure LS was detected for positive direction of movement
43 · 25-22-2-4	내용: [데릭] In the STOP condition control pressure LS was detected for negative direction of movement
44 · 25-23-2-0	내용: [텔레스코핑] Control pressure LS detected for positive and negative direction of movement
45 · 25-23-2-1	내용: [텔레스코핑] In the positive direction of movement control pressure LS was detected for negative direction of movement

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46 · 25-23-2-2	내용: [텔레스코핑] In the negative direction of movement control pressure LS was detected for positive direction of movement
47 · 25-23-2-3	내용: [텔레스코핑] In the STOP condition control pressure LS was detected for positive direction of movement
48 · 25-23-2-4	내용: [텔레스코핑] In the STOP condition control pressure LS was detected for negative direction of movement
49 · 25-24-2-0	내용: [선회] Control pressure LS detected for positive and negative direction of movement
50 · 25-24-2-1	내용: [선회] In the positive direction of movement control pressure LS was detected for negative direction of movement
51 · 25-24-2-2	내용: [선회] In the negative direction of movement control pressure LS was detected for positive direction of movement
52 · 25-24-2-3	내용: [선회] In the STOP condition control pressure LS was detected for positive direction of movement
53 · 25-24-2-4	내용: [선회] In the STOP condition control pressure LS was detected for negative direction of movement
54 · 1-6-0-0	내용: [CAN 버스] The CAN bus connection from ESX 2 to ESX 0 was lost within the process phase 설명: The superstructure can no longer be operated from the cab The handset emergency operation is to be used to de-rig the crane
55 · 1-6-1-0	내용: [CAN 버스] The CAN bus connection from ESX 2 to ESX 0 was lost within the configuration phase 설명: The superstructure can no longer be operated from the cab The handset emergency operation is to be used to de-rig the crane
56 · 2-6-0-0	내용: [CAN 버스] The CAN bus connection from ESX 0 to ESX 1 was lost within the process phase 설명: 센서 및 밸브 연결 대상 — ESX 더 이상 아님 사용 가능 으로 ECOS · Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this ESX. 설명 원문: The sensors and valves connected to this ESX are no longer available to the ECOS - Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this ESX.
57 · 2-6-1-0	내용: [CAN 버스] The CAN bus connection from ESX 0 to ESX 1 was lost within the configuration phase 설명: 센서 및 밸브 연결 대상 — ESX 더 이상 아님 사용 가능 으로 ECOS · Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this ESX 설명 원문: The sensors and valves connected to this ESX are no longer available to the ECOS - Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this ESX

번호 · 코드	내용 · 원인 · 조치 · 원문
58 · 3-6-2-0	내용: [CAN 버스] The CAN bus connection from ESX 0 to ESX 2 was lost during the transition from the configuration phase to the process phase 설명: 센서 및 밸브 연결 대상 — ESX 더 이상 아님 사용 가능 으로 ECOS · Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this ESX 설명 원문: The sensors and valves connected to this ESX are no longer available to the ECOS - Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this ESX
59 · 10-6-0-0	내용: [CAN 버스] The CAN bus connection from ESX 3 to IO 1 was lost within the process phase 설명: 센서 및 밸브 연결 대상 — IO 더 이상 아님 사용 가능 으로 ECOS · Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this IO 설명 원문: The sensors and valves connected to this IO are no longer available to the ECOS - Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this IO
60 · 10-6-1-0	내용: [CAN 버스] The CAN bus connection from ESX 3 to IO 1 was lost within the configuration phase 설명: 센서 및 밸브 연결 대상 — IO 더 이상 아님 사용 가능 으로 ECOS · Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this IO 설명 원문: The sensors and valves connected to this IO are no longer available to the ECOS - Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this IO
61 · 10-6-2-0	내용: [CAN 버스] The CAN bus connection from ESX 3 to IO 1 was lost during the transition from the configuration phase to the process phase 설명: 센서 및 밸브 연결 대상 — IO 더 이상 아님 사용 가능 으로 ECOS · Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this IO 설명 원문: The sensors and valves connected to this IO are no longer available to the ECOS - Functional restrictions are imposed on the drive units, the sensors or valves of which are connected to this IO
62 · 24-6-0-0	내용: [CAN 버스] The CAN bus connection from ESX 2 to the left control lever was lost
63 · 17-6-0-0	내용: [CAN 버스] The CAN bus connection from ESX 2 to the right control lever was lost